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Economic Performance Of The Quebec Fishing Fleet, 1990

Economic and Commercial Analysis Report n° 104

Pêches et Océans
Fisheries and Oceans
Canada

Economic Perfomance Of The Quebec Fishing Fleet, 1990

Eric Deschênes, economist consultant
Jean Boucher, economist
Economic Services Division

Department of Fisheries and Oceans
Economics, Statistics and Informatics Branch
Quebec Region
Quebec, (Quebec)
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L'année 1990 se caractérise par un effort de pêche généralement moins grand de la part des fleets québécoises. Pour certaines espèces, dont le poisson de fond, les prix se sont stabilisés mais pour d'autres et plus particulièrement le homard, on constate une baisse drastique du prix. Le nombre de bateaux actifs à continué de diminuer de sorte que l'effort de pêche en terme de jours de pêche totaux a encore décru pour les fleets étudiées.

Ces facteurs ont pour effet d'abaisser les volume et valeur débarqués par les entreprises québécoises. La diminution du volume s'est fait au dépend du groundfish et de la crevette alors que des augmentations dans les volumes de crabe, de homard et de pétoncle ont résorbés la chute. Quant à la baisse de la valeur totale débarquée, elle s'est aussi faite au dépend du groundfish et de la crevette auxquelles on ajoute le homard. Les autres espèces ont vu leurs valeurs totales débarquées s'apprécier. Au niveau des fleets, les résultats financiers sont mitigés. Certaines fleets sont affectées par des prix ayant une tendance à la baisse et voient leurs earnings de trésorerie diminuer substantiellement jusqu'à encourir des pertes. D'autres restent stables et quelques unes réussissent à améliorer leur situation financière.

ABSTRACT

Quebec fleets generally recorded somewhat less fishing effort in 1990. Prices for some species, such as groundfish, were stable. For others, particularly lobster, there was a drastic drop in the landing price. The number of active vessels continued to decline, as did the overall number of fishing days.

The end result was a decrease in landed volume and value by Quebec enterprises. The volume drop is mainly caused by reductions in groundfish and shrimp volumes. Conversely, crab, lobster and scallop volumes improved, compensating for the drop in total volume. The decrease in value was associated with groundfish and shrimp, in addition to the decrease in value for lobster. Values for other species rose. Turning our attention to the fleets, we see a range of financial results. Some fleets were affected by diminishing prices and their cash flow followed the same trend, even generating deficits. Others had stable incomes, and a few even improved their financial position.

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INTRODUCTION

This report presents a portrait of the financial performance of Quebec's various fishing fleets[1] for the operating year 1990. It is the fifth annual report of this type. Publication was interrupted in 1989 in favour of the report entitled "Costs and Earnings of Quebec Fishing Vessels 1989". Although it resembles previous reports, it differs by the survey year used. The base year is now that of the 1989 survey.

The Economic Performance of the Quebec Fishing Fleet reports differ from the publication Costs and Earnings of Quebec Fishing Vessels by the methodology on which they are based. While the latter report is produced evry three years based on a survey of skipper-owners of fishing vessels, this publication appears annually and is instead an estimate of performance developed from a detailed impact matrix.

However, it is **important to note** that the methodology used this year differs slightly from that used for the previous year's official publications. In 1989, a new rule was adopted defining active vessels. Previously, a vessel was considered active once it had made its first landing, whatever the value. The new rule stipulates that a vessel must land at least 25% of the average value of its fleet's landings to be considered active. For purposes of differentiation, we will therefore call any vessel with at least one landing recorded in the Statistics Division data bank a "vessel having fished".

This rule was adopted mainly to enable us to concentrate our efforts on vessel owners for whom fishing is the main source of income. We trust this will make the information contained in this publication more relevant.

Apart from this difference, this publication uses the same presentation as previous reports, subdividing Quebec fishing fleets according to the major species or group of species toward which Quebec fishing enterprises directed their efforts. We thus study groundfish fleets, snow crab fleets and fleets fishing for other major species of molluscs and crustaceans (shrimp, lobster and scallops).

In 1990, however, fleets were in turn subdivided. For example, longliners under 50 feet were divided into two groups. This enabled us to distinguish performance for groundfish and pelagic species. Similarly, Estuary and Middle North Short crabbers were divided into Area 16 and Area 17, while lobster fleets were divided into Gaspé and Magdalen Islands fleets.

Certain tables familiar to our readers will not be reproduced here, in view of the fact that only an exhaustive survey would enable us to update this information. A survey of this type was conducted in 1989. Readers are therefore requested to consult the study report "Costs and Earnings of Quebec

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[1] A definition of each of the fleets analysed in this publication is included in Appendix B.

Fishing Vessels, 1989" for this information (this report is available from the Economic Services Division at the Department's Quebec regional office).

The reader should note that the averages in the figures entitled **ECONOMIC PORTRAIT...** and the data in cash flow tables are estimates based on a sample of each fleet. This sample was taken from the 1989 operating year survey, and the results were obtained using the impact matrix for 1990. All other data in both the tables and the figures represent the total population of each fleet and are derived from data provided by the Statistics Division.

For the latter body of data, we wish to thank the Statistics and Electronic Data Processing Division which makes the production of this report possible from year to year.

Economic Services Division
Department of Fisheries and Oceans
Quebec Region -- August 1991

Portrait of Quebec Fisheries, 1990

Portrait of Quebec Fisheries, 1990

The volume of landings in Quebec dropped for the third consecutive year. From 81,468 metric tonnes (T) in 1989, it declined to 74,330 T in 1990 for a decrease of 8.8%. The total value of landings followed the same trend, decreasing from $82.5 million to $74.1 million, for a decrease of 10% in 1990 compared to 1989; however, value appeared to stabilize around a dollar per kilogram caught.[2]

The principal species making up these total landings are, as shown in Figure 1, groundfish, snow crab, lobster, shrimp and scallops. An analysis of this table will give us an idea of the relative importance of these species in total landings in Quebec.

From year to year, groundfish generates the greatest volume of landings of all the species mentioned. In 1990, this was again the case with 54% of total landings. This proportion decreased by 9 percentage points compared to 1989. Groundfish was in fact the main group of species contributing to the decrease of total landings au Quebec in 1990, when 22% less groundfish was caught than in 1989. Despite the slight increase in the price per kilogram (kg) of groundfish (2¢/kg), the total value fished decreased de 19%, from $26.6 million to $21.6 million, now accounting for only 29% of the total value fished.

Snow crab represents the second highest value in total landings in Quebec. Despite a general price decline of 19¢/kg, its total value increased from $16.1 to $17.2 million between 1989 and 1990 to account for 23% of the total value of Quebec landings, with volume increasing to 9%. The increase in volume is mainly due to Area 16 crabbers whose landings of crab increased substantially. Despite a decline in price, this rise caused the total value of crab caught to increase.

Lobster, with only 4% of total landings, was the third most important species in Quebec in terms of value with 18% of the total; however, because of a significant drop in price in 1990, of $1.84/kg, the value of lobster landed decreased by 29% from $18.8 million to $13.3 million from 1989 to 1990. Decreases in the value of landings of lobster and groundfish also contributed to a decline in the total value of landings in 1990.

---

2 The words "caught","fished", and "landed" are all used with a similar meaning, i.e. any species from the sea that the vessel, fishermen or enterprise brings to the wharf for the purpose of selling it.

The fourth-ranking species in terms of total value is shrimp with 16%. Volume accounted for 13% of the total and remained relatively stable compared to 1989 with 9,636 T; however, a decrease of 16¢ a kg in the price caused an 11% decrease in landed value, which amounted to $11.6 million.

Even though scallops accounted for only 5% of total landings in value and volume, there was an appreciable increase in the landed volume and value of this species. The volume of scallops increased by 47% in 1990 , rising from 2,436 to 3,572 T. This increase in volume was reflected in the value, despite a price decrease of 7¢ a kg. The value of scallops landed increased by 38% for a value of $3.8 million.

Other species accounted for 15% of the volume and 9% of the value of Quebec landings. In volume, 88% of these other species were pelagic species which represented 9,392 T, and the value of $5.1 million represented 79% of the value of these other species.

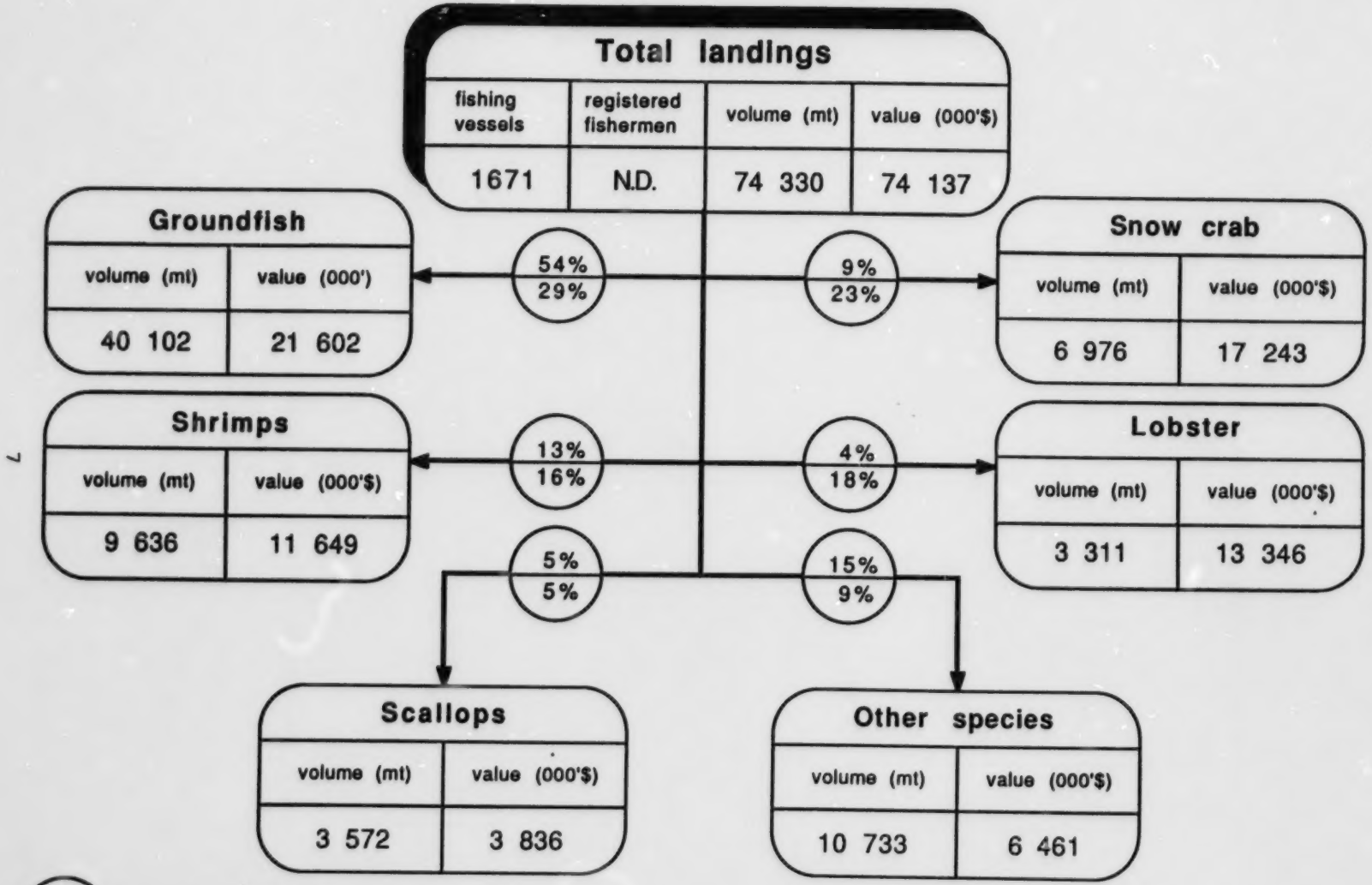
Statistics on landings in Quebec are not enough to provide a portrait of the economic performance of the various fishing fleets in Quebec. We have to subtract landings by vessels from outside Quebec and add non-Quebec landings by Quebec vessels in order to obtain **landings by vessels registered in Quebec** (see Figure 2). Hence the results in figures 1 and 2 should not be compared, as they represent different situations.

Quebec vessels generally land more outside Quebec than non-Quebec vessels can land in Quebec, meaning that the volume landed by Quebec enterprises is higher than the total volume landed in Quebec. The above-mentioned calculations yield the results shown in Figure 3.

These results indicate that the volume landed by Quebec enterprises decreased by 10% from 93,926 to 85,021 T. We can see that the out-of-province activities of Quebec fishermen are mainly concentrated on groundfish and shrimp and that these two species are almost entirely responsible for the decrease in volume of Quebec enterprises. The variation in the total value of landings by Quebec enterprises was caused by these two species, to which should be added lobster, and represented a decrease of 12% to $86.4 million.

Figure 1

WHOLE PICTURE OF QUEBEC LANDINGS FOR 1990



SOURCE: DFO, Statistic division, Quebec
COMPILATION: DFO,Economic services division, Quebec

Figure 2

LANDINGS BY QUEBEC FISHING ENTERPRISES 1990

Quebec landings

fishing vessels	registered fishermen	volume (mt)	value (000'$)
1671	N.D.	74 330	74 137

—

Landings by non-Quebec vessels

volume (mt)	value (000'$)
1 902	1195

+

Landings outside of Quebec by Quebec vessels

volume (mt)	value (000'$)
12 593	13 482

=

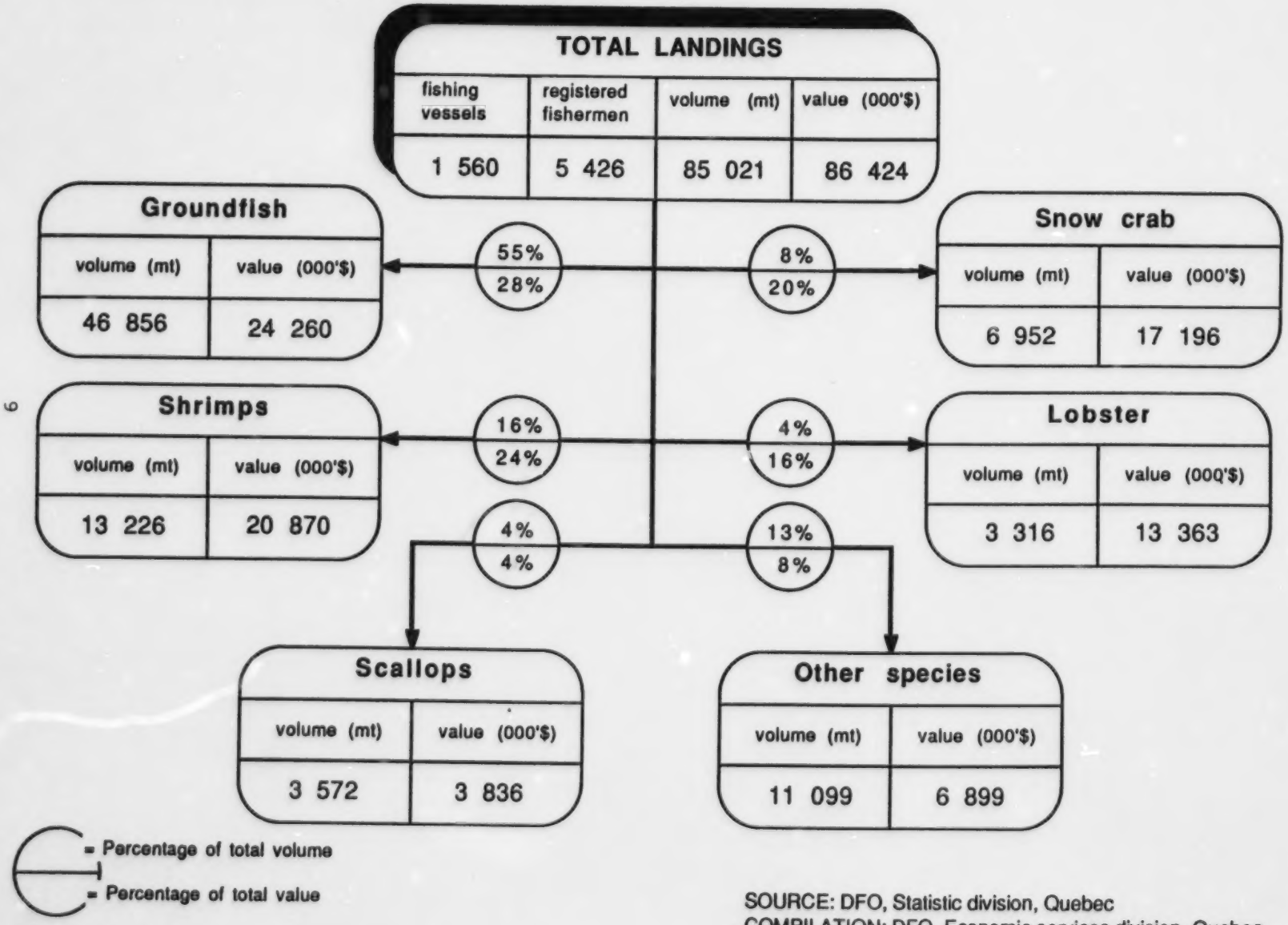
LANDINGS BY QUEBEC ENTERPRISES

fishing vessels	registered fishermen	volume (mt)	value (000'$)
1 560	5 426	85 021	86 424

SOURCE: DFO, Statistic division, Quebec

Figure 3

WHOLE PICTURE OF LANDINGS BY QUEBEC FISHING ENTERPRISES IN 1990



SOURCE: DFO, Statistic division, Quebec
COMPILATION: DFO, Economic services division, Quebec

1. Species: Groundfish and pelagic species.

1. Species: Groundfish and pelagic species.

This section of the report deals with fleets whose operations are mainly geared toward fishing for groundfish and pelagic species. The following fleets are analysed in this section:

Fleets using mobile gear:

- Trawlers under 50 feet in length
- Trawlers 50 to 65 feet in length
- Scottish seiners

Fleets using fixed gear:

- Longliners under 35 feet in length
    - groundfish
    - pelagic species
- Longliners 35 feet to 50 feet in length
    - groundfish
    - pelagic species
- Longliners 50 feet and over in length

Appendix B of this report gives a detailed definition of each of these fleets, which together comprise 477 active vessels and some 1,118 fishermen. Fleets specializing in groundfish are responsible for about 55% of the volume of groundfish landings by Quebec vessels. Fleets that concentrate on pelagic species represent over 44% of the volume of these species caught by Quebec fishing enterprises.

Fleets using mobile gear

Trawlers under 50 feet in length

The 1990 edition of this report is the first in the series to include complete results on this entire fleet. There are 10 active vessels landing approximately 3% of the groundfish caught by Quebec enterprises.

Fishing effort (Table 1)

In 1990 these trawlers maintained a number of voyages comparable to that of 1989, or 45.1 and 45.8 respectively for the two years; however, the number of days at sea and fishing days declined noticeably. There were 30 less days at sea in 1990 for a total of 85.6. The number of fishing days was 70.6 or 19 less than the previous year.

Landings (Table 2, 3 and 4)

As we can see from Table 4, cod formed 75% of landings by a typical vessel, with the difference being made up of sole and redfish. These vessels landed an average of 146.7 T of fish, and we see that there was some stability here compared to 1989. The value of this volume was $83,616, or approximately $3,000 less than in 1989. This decrease in the total value of the average landing is mainly due to a decrease in the price of sole from 86¢ to 68¢ a kg caused by lower catches of this species.

Financial performance (Table 5)

Although the cash flow situation of this fleet improved between 1989 and 1990, their situation remained difficult. These vessels incurred a loss for the second consecutive year. In 1990 this loss amounted to $3,321.

Trawlers 50 to 65 feet in length

Restructuring of this publication means that in 1990 the fleet formerly analysed under trawlers 45 to 65 feet in length now excludes vessel between 45 and 50 feet in length These vessels are included in the fleet analysed above.

The fleet of trawlers 50 to 65 feet in length includes 45 active fishing vessels, the same number as in 1989. This fleet accounts for a third of the total groundfish landings by Quebec vessels and 86% of landings by trawlers under 100 feet in length.

Fishing effort (Table 1)

A slight decrease was noted in the number of voyages, the number of days at sea and the number of fishing days. There was a total of 20.3 voyages, 93.6 days at sea and 71.3 fishing days per vessel.

Landings (Tables 2, 3 and 4)

Here again, cod made up most of the landings of this fleet with 80% of total landings. The average landing per vessel decreased, from 360.0 T to 349.5 T, or nearly 11 T less per vessel. However, an increase in the price of cod (4¢/kg) enabled this fleet to increase the value of its annual catch compared to 1989. Fishing earnings thus amounted to $181,859.

Financial performance (Table 5)

Compared with 1989, trawlers in this category saw their financial situation improve for the year 1990. Average cash flow increased by 38% to $32,164. Using the ratio of cash flow to gross earnings we can see that the vessels of this fleet were more efficient in 1990. In 1989, cash flow was 13% of gross earnings, whereas this proportion increased to 18% in 1990.

Scottish seiners

This fleet has grown steadily since 1985, when one vessel was fishing with a Scottish seine, and today counts 10 vessels, all located in the Magdalen Islands. The overall length of these vessels is between 39 and 55 feet and they fish approximately 5% of all the groundfish caught by Quebec vessels. The Magdalen Islands location is due to the fact that this fishing technique is particularly well suited to the conditions encountered on the fishing grounds in that geographic sector.

Groundfish and pelagic species

Fishing effort (Table 1)

For the past two years, seiners have been improving their fishing effort. From 1989 to 1990, the number of voyages, days at sea and fishing days rose. There were 5 voyages more than in 1989, resulting in 64.4 in 1990. This was reflected in the number of days at sea, which now totalled 81.4, while the number of fishing days rose to 75.

Landings (Tables 2, 3 and 4)

Like trawlers 50 to 65 feet in length, landings by seiners decreased slightly by 9% in 1990, stabilizing at 226.9 T. This decrease in volume is mainly due to a decrease in catches of cod and sole, which alone accounted for 91% of the total volume landed by a typical seiner. However, a substantial increase, in the order of 12¢/kg, in the price of cod enabled seiners to maintain the value of their landings at the same level as in 1989, in the neighbourhood of $135,000.

Financial performance (Table 5)

A stable value of landings and a slight increase in fishing effort resulted in a lower cash flow in 1990; however, the situation is comparable to that of 1989, in that cash flow increased by only about $1,000, to $22,833.

The cash flow of Scottish seiners, which amounted to 18% of their gross earnings in 1989, is now 17% of gross earnings.

Fleets using fixed gear

Longliners under 35 feet in length

This fleet was originally consolidated into one fleet including longliners fishing both groundfish and pelagic species. This situation was due to the 1986 survey in which the sample chosen made no distinction between these concentrations. Contrary to the 1986 survey, the 1989 survey made this distinction, enabling us to estimate results for each of these groups. For

this reason, this section contains an analysis of the fishery for pelagic species and one for groundfish.

We can thus identify one group of longliners under 35 feet in length whose operations are mainly concentrated on groundfish while other longliners concentrate on fishing for small pelagic species. The common characteristic of these sub-fleets is the use of a fixed line gear as their main fishing gear.

Longliners under 35 feet in length - groundfish

Each fleet specializes in one species or another based on the value of its landings. In the present case, longliners are classified under "groundfish" because over 50% of the value of their landings is made up of groundfish. This fleet of small longliners had a total of 180 active vessels, which is 8 less than in 1989. Its groundfish fishery in 1990 accounted for 5% of landings by Quebec vessels.

Fishing effort (Table 6)

It should be noted that the fishing effort shown in Table 6 is an estimate based on the 1989 survey. Only the number of active vessels is not an estimate. It can be seen that this fleet decreased its fishing effort considerably in 1990. The decrease is over 50% for the three variables considered in fishing effort, resulting in 35.9 voyages for 37.6 days at sea and 36.3 fishing days.

Landings (Tables 7, 8 and 9)

In volume terms, the average landing of this fleet amounted to 16.4 T per vessel, with cod accounting for over 64%. This is a decrease of 5.9 T compared to 1989, due to a decrease in fishing effort. Despite a noticeable increase in landing prices for the various species of groundfish caught by these vessels, the value of the average landing dropped approximately $3,000 to a level of $11,172.

Financial performance (Table 10)

Even though there was a decline in gross earnings, this was not the case for cash flow. Since fishing effort had decreased considerably, operating costs were lower, so the difference between costs and earnings was positive. The result is a cash flow of $2,213 for 1990 compared to a loss

of $1,439 in 1989. The situation has thus improved, with cash flow amounting to 20% of gross earnings.

Longliners under 35 feet in length - pelagic species

To be classified as "pelagic species", over 50% of the value of landings must be made up of pelagic species. Compared to 1989, the number of active vessels in this fleet decreased by 22 from 79 to 55. Landings were made up of 82% herring, the main species in the pelagic species fishery. These small longliners accounted for 21% of landings of pelagic species in Quebec.

Fishing effort (Table 6a)

The decrease in the number of vessels did not affect the effort of the remainder. There was 40% more fishing effort by this fleet in 1990. The result was that the number of voyages rose to 100.1 while the number of days at sea and fishing days increased to 102.9 and 98.7 respectively.

Landings (Tables 7a, 8a and 9a)

Landings increased substantially in 1990. This increase is mainly due to the volume of herring, which more than tripled to 33.9 T out of a total volume of 41.2 T. This large increase in volume was reflected in fishing earnings, which rose to $15,367. This 80% increase was due to the volume of herring and also to the catch of other species such as eel.

Financial performance (Table 10a)

Like the groundfish longliners in the same length category, those which concentrated on pelagic species had an improved financial situation in 1990. From a loss of $210 for the 1989 fiscal year, the situation progressed to a gain of $789 in 1990.

Longliners 35 feet to 50 feet in length

The 1989 survey also subdivided the sample of longliners 35 to 50 feet in length on the basis of the main species fished. This enabled us for the first time to analyse the complete results for longliners of this length category,

regardless whether they fish groundfish or pelagic species. Since they all fish with the same gear we classified them all under longliners 35 to 50 feet in length.

Longliners 35 to 50 feet in length - groundfish

There were 62 active vessels in 1990, or 21 less than in 1989. Contrary to the groundfish fleets studied so far, the longliners in this category had landings made up mostly of turbot. In 1990, this species accounted for 51% of the total average landing of the typical vessel, followed by cod with 24%. Compared to all the groundfish fished by Quebec vessels, longliners 35 to 50 feet in length represented 3% of the total.

Fishing effort (Table 6)

As seen in Table 6, fishing effort was lower in 1990 for longliners in this category. The number of voyages decreased to a total of 56.1, the number of days at sea fell to 73.7 and fishing days numbered only 67.

Landings (Tables 7, 8 and 9)

The average volume of landings by this fleet decreased considerably to 25.5 T, a drop of 36%. This decrease was mainly due to lower catches of turbot (41% less) and cod (39% less). Even though the price of the main species fished by these vessels increased, the total value of landings decreased by 27%. The volume caught represented $24,679 in terms of value.

Financial performance (Table 10)

Despite a decrease in costs due to lower fishing effort, cash flow deteriorated compared to 1989. These vessels incurred average losses of $7,679.

Longliners 35 to 50 feet in length - pelagic species

There were 28 vessels in this fleet in 1990, or 13 more than in 1989. The main species landed was herring, which accounted for 89% of the total volume landed by the fleet. This fleet alone thus caught 23% of all the pelagic species caught by Quebec vessels. The two pelagic fleets analysed in this publication thus fished for 44% of the total volume of pelagic species landed by Quebec vessels.

Groundfish and pelagic species

Fishing effort (Table 6a)

These vessels, which made an average of 61 fishing voyages in 1989, increased their fishing effort significantly in 1990 to 108.5 voyages for the year. Normally days at sea and fishing days for these vessels are equal to the number of voyages.

Landings (Tables 7a, 8a and 9a)

The increase in fishing effort was reflected in the volume landed. With a strong increase of 71%, the average volume of landings by a vessel of this type totalled 84.3 T compared to 49.4 T in 1989. The species most affected by this increase was herring, with over double the volume. The total value of landings per vessel increased for a total of 4.553, or a little over 2.4 times the 1989 value.

Financial performance (Table 10a)

The increase in fishing effort caused earnings to rise, but increased costs as well, so that cash flow for these longliners did not improve in 1990. Losses reported were $7,833. This result is comparable to that of groundfish longliners of the same length.

Longliners 50 feet in length and over

The fleet of longliners 50 feet in length and over was decreased by 4 vessels in 1990 to 21. These vessels specialize in fishing groundfish and are characterized by the use of longlines as their main fishing gear, as opposed to shorter longliners (less than 50 feet in length) whose main fishing gear is the gillnet. Most of their landings were made up of cod (65%) and turbot (19%). In 1990 this fleet caught 5% of all the groundfish taken by Quebec fishermen.

Fishing effort (Table 6)

It should be noted that the fleet of longliners 50 feet in length is the only longliner fleet on which we can publish statistics on the fishing effort of the population rather than estimates based on "costs and earnings". The 21 active vessels had a reduced fishing effort on average in 1990. In terms of fishing voyages, there were 3 less for a total of 15.1. The number of fishing days and days at sea decreased by 12.5 and 10 to 101.8 and 68.9 respectively.

Landings (Tables 7, 8 and 9)

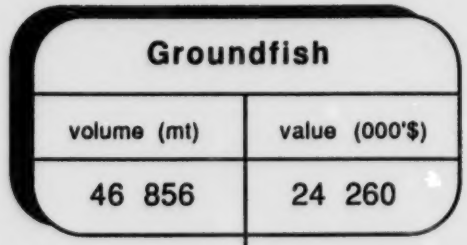
Despite an increase in the average price per kg caught, the fishing earnings of longliners over 50 feet in length decreased by 21% in 1990. The reason is clearly the 30% decrease in catch. The average volume fished by a longliner over 50 feet in length was 111.4 T for a value of $112,276.

Financial performance (Table 10)

With such a decrease in fishing earnings it was normal that cash flow should follow the same trend, decreasing by 43% for a value of $9,856. This cash flow represented 9% of gross earnings, whereas it amounted to 12% in 1989.

Figure 4

ECONOMIC PICTURE OF THE GROUNDFISH FISHERY, 1990



Groundfish	
volume (mt)	value (000'$)
46 856	24 260

Trawlers 50 to 65 feet

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
45	189	334 450	177 865	32 938

Longliners over 50 feet

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
21	107	132 586	143 998	9 856

Scottish seine

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
10	32	207 564	129 820	22 833

Longliners 35 to 50 feet

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
62	180	37 932	28 734	(7679)

Trawlers less than 50 feet

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
10	33	133 837	76 983	(3 321)

Longliner less than 35 feet

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
180	378	27 336	16 994	2 213

Figure 5

ECONOMIC PICTURE OF THE PELAGICS FISHERY, 1990.

Pelagics	
volume (mt)	value (000'$)
9 771	5 530

Longliners 35 to 50 feet				
active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
28	78	100 809	28 015	(7 833)

Longliner less than 35 feet				
active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
55	121	45 544	14 325	789

TABLE 1

AVERAGE FISHING EFFORT
GROUNDFISH FISHING FLEETS WITH MOBILE GEARS
1989 AND 1990

FISHING EFFORT	GROUNDFISH TRAWLERS less than 50 feet		GROUNDFISH TRAWLERS from 50 to 65 feet		SCOTTISH SEINE	
	1989	1990	1989	1990	1989	1990
Number of active vessels	10	10	45	45	9	10
Number of fishing trips	45.8	45.1	22.8	20.3	59.1	64.4
Number of days at sea	115.4	85.6	104.5	93.6	75.3	81.4
Number of fishing days	89.5	70.6	79.6	71.3	68.3	75.0

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 2

AVERAGE LANDED VOLUME (KG)
GROUNDFISH FISHING FLEETS WITH MOBILE GEARS
1989 AND 1990

SPECIES	GROUNDFISH TRAWLERS less than 50 feet		GROUNDFISH TRAWLERS from 50 to 65 feet		SCOTTISH SEINE	
	1989	1990	1989	1990	1989	1990
Cod	106998	110433	275953	280037	184090	169472
Haddock	-	-	14	49	704	69
Redfish	7349	12939	56140	47666	13132	17111
Halibut	55	35	222	130	19	2
Plaice	30443	20572	18004	15298	46947	37151
Turbot	1702	1042	7063	2845	-	-
Other groundfish	57	490	789	1452	2365	1725
Herring	-	-	-	-	-	-
Mackerel	-	-	-	-	-	-
Capelin	-	-	-	-	-	-
Salmon	-	-	-	-	-	-
Other pelagic	-	-	-	-	-	-
Scallops	329	755	-	-	-	1377
Lobster	-	-	-	-	1253	-
Shrimp	-	-	1867	2053	-	-
Crab	-	-	-	-	-	-
Other moll. and crust.	-	404	-	-	-	-
Other items	-	-	-	-	-	-
Total	146933	146669	360034	349530	248510	226907

Source: Statistic division, DFO Quebec region
Compilation: Economic services division, DFO Quebec region

TABLE 3

AVERAGE LANDED VALUE ($)
GROUNDFISH FISHING FLEETS WITH MOBILE GEARS
1989 AND 1990

SPECIES	GROUNDFISH TRAWLERS less than 50 feet		GROUNDFISH TRAWLERS from 50 to 65 feet		SCOTTISH SEINE	
	1989	1990	1989	1990	1989	1990
Cod	56237	62899	137694	151699	86113	100697
Haddock	-	-	8	42	571	61
Redfish	2023	4275	19343	13723	5190	4612
Halibut	174	118	555	352	53	6
Plaice	26218	13890	11838	9738	35500	28109
Turbot	1669	1028	5872	3339	-	-
Other groundfish	17	189	178	489	696	595
Herring	-	-	-	-	-	-
Mackerel	-	-	-	-	-	-
Capelin	-	-	-	-	-	-
Salmon	-	-	-	-	-	-
Other pelagic	-	-	-	-	-	-
Scallops	437	1002	-	-	-	1462
Lobster	-	-	-	-	7203	-
Shrimp	-	-	2789	2477	-	-
Crab	-	-	-	-	-	-
Other moll. and crust.	-	216	-	-	-	-
Other items	-	-	-	-	-	-
Total	86775	83616	178277	181859	135326	135544

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 4

AVERAGE LANDED VALUE ($/KG)
GROUNDFISH FISHING FLEETS WITH MOBILE GEARS
1989 AND 1990

SPECIES	GROUNDFISH TRAWLERS less than 50 feet		GROUNDFISH TRAWLERS from 50 to 65 feet		SCOTTISH SEINE	
	1989	1990	1989	1990	1989	1990
Cod	0.53	0.57	0.50	0.54	0.47	0.59
Haddock	-	-	0.57	0.86	0.81	0.88
Redfish	0.28	0.33	0.34	0.29	0.40	0.27
Halibut	3.19	3.35	2.50	2.70	2.79	3.76
Plaice	0.86	0.68	0.66	0.64	0.76	0.76
Turbot	0.98	0.99	0.83	1.17	-	-
Other groundfish	0.30	0.39	0.23	0.34	0.29	0.35
Herring	-	-	-	-	-	-
Mackerel	-	-	-	-	-	-
Capelin	-	-	-	-	-	-
Salmon	-	-	-	-	-	-
Other pelagic	-	-	-	-	-	-
Scallops	1.33	1.33	-	-	-	1.06
Lobster	-	-	-	-	5.75	-
Shrimp	-	-	1.49	1.21	-	-
Crab	-	-	-	-	-	-
Other moll. and crust.	-	0.53	-	-	-	-
Other items	-	-	-	-	-	-
Average price per kg captured	0.59	0.57	0.50	0.52	0.54	0.60

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 5

AVERAGE CASH FLOW INCOME
GROUNDFISH FISHING FLEETS WITH MOBILE GEARS
1989 AND 1990

CASH FLOW INCOME	GROUNDFISH TRAWLERS less than 50 feet		GROUNDFISH TRAWLERS from 50 to 65 feet		SCOTTISH SEINE	
	1989	1990	1989	1990	1989	1990
REVENUE						
Fishing revenue	76686	76983	173424	180195	126741	129820
Other revenue	-	-	677	677	-	-
Total revenue	76686	76983	174101	180872	126741	129820
COSTS						
Fixed operating costs	8289	8289	16825	16825	7883	7883
Maintenance costs	4374	3244	7805	6991	11056	11952
Gear costs	4615	3423	8411	7534	6685	7226
Variable operating costs A	4086	4024	10978	9774	7325	7982
Variable operating costs B	13636	10115	26546	23777	13994	15128
Labour costs	24412	24507	41011	42612	36008	36883
Financial expenses	26702	26702	39195	41195	19932	19932
Total costs	86114	80304	150771	148708	102884	106986
CASH FLOW INCOME	(9 428)	(3 321)	23 330	32 164	23 857	22 833

Note: Two thousand dollars as been added to the financial costs of the 50 to 65 feet trawlers to consider the financing costs of quota purchase in 1990.

TABLE 6

AVERAGE FISHING EFFORT
GROUNDFISH FISHING FLEETS WITH FIXED GEARS
1989 AND 1990

FISHING EFFORT	LONGLINERS less than 35 feet		LONGLINERS from 35 to 50 feet		LONGLINERS 50 feet and over	
	1989	1990	1989	1990	1989	1990
Number of active vessels	188	180	83	62	25	21
Number of fishing trips	85.0	35.9	67.0	56.1	18.2	15.1
Number of days at sea	89.0	37.6	88.0	73.7	114.3	101.8
Number of fishing days	86.0	36.3	80.0	67.0	78.9	68.9

Source less than 50 feet: Costs and Earnings 1989, Economic Division, MFO Quebec region.
Estimates based on Costs and Earnings 1989 for 1990.
Source over 50 feet: Statistic Division, MFO Quebec region.

TABLE 6a

AVERAGE FISHING EFFORT
PELAGICS FISHING FLEET WITH FIXED GEARS
1989 ET 1990

FISHING EFFORT	LONGLINERS less than 35 feet		LONGLINERS from 35 to 50 feet	
	1989	1990	1989	1990
Number of active vessels	79	55	15	28
Number of fishing trips	71.0	100.1	61.0	108.5
Number of days at sea	73.0	102.9	61.0	108.5
Number of fishing days	70.0	98.7	61.0	108.5

Source: Costs and Earnings 1989, Economic Division, MFO Quebec region.
Estimates based on Costs and Earnings 1989 for 1990.

TABLE 7

AVERAGE LANDED VOLUME (KG)
GROUNDFISH FISHING FLEETS WITH FIXED GEARS
1989 AND 1990

SPECIES	LONGLINERS less than 35 feet		LONGLINERS from 35 to 50 feet		LONGLINERS 50 feet and over	
	1989	1990	1989	1990	1989	1990
Cod	13494	10513	10006	6080	109538	72925
Haddock	-	1	3	-	26	5
Redfish	287	168	1896	1078	1046	739
Halibut	63	35	103	101	3014	4565
Plaice	1487	1143	2353	1294	12306	5989
Turbot	3798	1747	22186	13118	27019	20912
Other groundfish	548	400	1348	1310	6190	6153
Herring	1032	792	1443	2188	-	-
Mackerel	1181	965	227	123	-	-
Capelin	119	154	-	-	-	-
Salmon	2	6	-	-	-	-
Other pelagic	8	295	3	80	-	32
Scallops	58	58	78	-	-	-
Lobster	14	34	11	1	-	-
Shrimp	-	-	-	-	-	-
Crab	5	16	189	16	-	40
Other moll. and crust.	102	32	19	85	-	-
Other items	20	-	-	-	-	-
Total	22218	16358	39865	25472	159139	111360

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 7a

AVERAGE LANDED VOLUME (KG)
PELAGICS FISHING FLEETS WITH FIXED GEARS
1989 AND 1990

SPECIES	LONGLINERS less than 35 feet 1989	1990	LONGLINERS from 35 to 50 feet 1989	1990
Cod	1331	1717	2108	1332
Haddock	-	-	-	-
Redfish	-	9	34	-
Halibut	5	11	10	10
Plaice	213	638	133	75
Turbot	46	50	163	1
Other groundfish	59	171	163	181
Herring	10077	33908	32076	75044
Mackerel	2348	1054	14344	6059
Capelin	13361	1429	-	-
Salmon	3	6	-	-
Other pelagic	291	689	23	805
Scallops	51	-	-	-
Lobster	39	339	155	806
Shrimp	-	-	-	-
Crab	-	-	-	-
Other moll. and crust.	26	1200	152	-
Other items	104	-	-	-
Total	27954	41221	49361	84312

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 8

AVERAGE LANDED VALUE ($)
GROUNDFISH FISHING FLEETS WITH FIXED GEARS
1989 AND 1990

SPECIES	LONGLINERS less than 35 feet		LONGLINERS from 35 to 50 feet		LONGLINERS 50 feet and over	
	1989	1990	1989	1990	1989	1990
Cod	8063	7049	7417	4652	95323	61943
Haddock	-	1	1	-	7	4
Redfish	92	56	609	391	339	252
Halibut	239	170	291	353	8273	18808
Plaice	1045	714	1778	922	9518	3683
Turbot	3755	2142	22410	16654	25807	25227
Other groundfish	169	138	526	637	2627	2212
Herring	182	197	205	483	-	-
Mackerel	340	300	68	33	-	-
Capelin	20	26	-	-	-	-
Salmon	10	22	1	-	-	-
Other pelagic	7	98	11	479	-	41
Scallops	58	65	74	-	-	-
Lobster	78	149	74	3	-	-
Shrimp	-	-	-	-	-	-
Crab	8	36	541	25	-	106
Other moll. and crust.	44	12	24	47	-	-
Other items	31	-	-	-	-	-
Total	14141	11172	34030	24679	141894	112276

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 8a

AVERAGE LANDED VALUE ($)
PELAGICS FISHING FLEETS WITH FIXED GEARS
1989 AND 1990

SPECIES	LONGLINERS less than 35 feet		LONGLINERS from 35 to 50 feet	
	1989	1990	1989	1990
Cod	710	1176	1400	1009
Haddock	-	-	-	-
Redfish	-	2	7	-
Halibut	20	40	30	35
Plaice	75	364	104	45
Turbot	45	61	174	1
Other groundfish	21	62	57	72
Herring	3115	7929	4155	14500
Mackerel	635	343	3307	1525
Capelin	2241	158	-	-
Salmon	16	56	-	-
Other pelagic	1193	3024	10	4086
Scallops	47	-	-	-
Lobster	250	1504	1004	3282
Shrimp	-	-	-	-
Crab	-	-	-	-
Other moll. and crust.	11	648	65	-
Other items	172	-	-	-
Total	8551	15367	10314	24553

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 9

AVERAGE LANDED VALUE ($/KG)
GROUNDFISH FISHING FLEETS WITH FIXED GEARS
1988 AND 1989

SPECIES	LONGLINERS less than 35 feet		LONGLINERS from 35 to 50 feet		LONGLINERS 50 feet and over	
	1989	1990	1989	1990	1989	1990
Cod	0.60	0.67	0.74	0.77	0.87	0.85
Haddock	-	0.83	0.33	0.50	0.27	0.78
Redfish	0.32	0.33	0.32	0.36	0.32	0.34
Halibut	3.79	4.83	2.83	3.51	2.74	4.12
Plaice	0.70	0.62	0.76	0.71	0.77	0.61
Turbot	0.99	1.23	1.01	1.27	0.96	1.21
Other groundfish	0.31	0.35	0.39	0.49	0.42	0.36
Herring	0.18	0.25	0.14	0.22	-	-
Mackerel	0.29	0.31	0.30	0.27	-	-
Capelin	0.17	0.17	-	-	-	-
Salmon	5.00	3.90	-	-	-	-
Other pelagic	0.88	0.33	3.67	6.02	-	1.28
Scallops	1.00	1.11	0.95	1.17	-	-
Lobster	5.57	4.42	6.73	4.17	-	-
Shrimp	-	-	-	-	-	-
Crab	1.60	2.17	2.86	1.62	-	2.65
Other moll. and crust.	0.43	0.37	1.26	0.56	-	-
Other items	1.55	1.13	-	-	-	-
Average price per kg captured	0.64	0.68	0.85	0.97	0.89	1.01

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 9a

AVERAGE LANDED VALUE ($/KG)
PELAGICS FISHING FLEETS WITH FIXED GEARS
1989 AND 1990

SPECIES	LONGLINERS less than 35 feet		LONGLINERS from 35 to 50 feet	
	1989	1990	1989	1990
Cod	0.53	0.68	0.66	0.76
Haddock	-	-	-	-
Redfish	-	0.22	0.22	-
Halibut	4.00	3.64	2.96	3.41
Plaice	0.35	0.57	0.78	0.60
Turbot	0.98	1.22	1.07	0.79
Other groundfish	0.36	0.36	0.35	0.40
Herring	0.31	0.23	0.13	0.19
Mackerel	0.27	0.33	0.23	0.25
Capelin	0.17	0.11	-	-
Salmon	5.33	9.33	-	-
Other pelagic	4.10	4.39	0.43	5.08
Scallops	0.92	-	-	-
Lobster	6.41	4.44	6.48	4.07
Shrimp	-	-	-	-
Crab	-	-	-	-
Other moll. and crust.	0.42	0.54	0.43	-
Other items	1.65	-	-	-
Average price per kg captured	0.31	0.37	0.21	0.29

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 10

AVERAGE CASH FLOW INCOME
GROUNDFISH FISHING FLEETS WITH FIXED GEARS
1988 AND 1989

CASH FLOW INCOME	LONGLINERS less than 35 feet		LONGLINERS from 35 to 50 feet		LONGLINERS 50 feet and over	
	1989	1990	1989	1990	1989	1990
REVENUE						
Fishing revenue	19403	16994	39417	28399	167800	143998
Other revenue	-	-	335	335	-	-
Total revenue	19403	16994	39752	28734	167800	143998
COSTS						
Fixed operating costs	1506	1506	3484	3484	10213	10213
Maintenance costs	1277	539	3270	2740	15783	14057
Gear costs	3461	1462	6097	5109	9773	8704
Variable operating costs A	1764	745	3267	2737	18911	15690
Variable operating costs B	2642	1116	4613	3865	23213	20674
Labour costs	6274	5495	13801	9943	55830	47911
Financial expenses	3918	3918	8534	8534	16893	16893
Total costs	20842	14781	43066	36413	150616	134142
CASH FLOW INCOME	(1 439)	2 213	(3 314)	(7 679)	17 184	9 856

TABLE 10a

AVERAGE CASH FLOW INCOME
PELAGICS FISHING FLEETS WITH FIXED GEARS
1989 AND 1990

CASH FLOW INCOME	LONGLINERS less than 35 feet 1989	1990	LONGLINERS from 35 to 50 feet 1989	1990
REVENUE				
Fishing revenue	9438	14325	14426	27515
Other revenue	-	-	500	500
Total revenue	9438	14325	14926	28015
COSTS				
Fixed operating costs	534	534	2830	2830
Maintenance costs	582	820	3467	6167
Gear costs	2444	3445	1980	3522
Variable operating costs A	690	973	2798	4977
Variable operating costs B	1560	2199	3405	6057
Labour costs	3336	5063	5703	10877
Financial expenses	502	502	1416	1416
Total costs	9648	13536	21599	35848
CASH FLOW INCOME	(210)	789	(6 673)	(7 833)

2. Species: Snow crab

2. Species: Snow crab

This section deals with the fleets involved primarily in the snow crab fishery. The following fleets are analysed:

- Southwestern Gulf crabbers (midshore)
- Lower North Shore crabbers
- Estuary and Middle North Shore crabbers
  - Area 16
  - Area 17

These four very distinct fleets operate in snow crab fishing areas (see map, Appendix D) appropriate to the biological requirements of the species and meeting the resource management needs for which the Department is responsible. As mentioned in the introduction, the fleet of Estuary and Middle North Shore crabbers will henceforth be analysed in terms of fishing area rather than being consolidated.

Southwestern Gulf crabbers

The fleet of Southwestern Gulf crabbers consists of 130 enterprises operating out of ports located primarily in Quebec and New Brunswick. The results presented here are those of the Quebec fleet, which consists of 47 enterprises. Of these, 9 are located in the Magdalen Islands and 38 on the south coast of Gaspé. The majority of landings by this fleet are by crabbers located in Gaspé. In percentage of the total volume of snow crab landed by Quebec vessels, this fleet represented 36%.

Fishing effort (Table 11)

For the second consecutive year, these crabbers decreased their fishing effort. Table 11 shows 1.8 voyages less, 10.7 less days at sea and 4.3 less fishing days, resulting in 17 voyages for 31 days at sea and 24.6 fishing days.

Landings (Tables 12, 13 and 14)

The decrease in fishing effort in Area 12 is the result of a lower average landing of 14.4 T (19%). This amounts to 61.9 T and is 85% crab. In

addition to the decrease in volume, these crabbers saw the landing price of crab drop by 33¢/kg. The result is that fishing earnings decreased noticeably. With $68,579 less, fishing earnings stabilized at $134,046.

Financial performance (Table 15)

This sort of decrease in gross earnings necessarily brought a decrease in cash flow, which declined from $59,089 to $20,685, a decrease of 65% compared to the previous year. Cash flow was 15% of gross fishing earnings, whereas the ratio stood at 29% in 1989.

Lower North Shore crabbers

The Lower North Shore crabber fleet is divided up based on the management areas fished by these enterprises. From west to east, this covers Area 15 which includes the Kégaska sector, Area 14 which extends in a northeasterly direction to Saint-Augustin and Area 13 which, on the Quebec side, extends from Lourdes to Blanc-Sablon. This last area is a joint area including the northern part of the west coast of Newfoundland. There were 33 active vessels in Area 13, 20 in Area 14 and 8 in Area 15, for a total of 61 on the Lower North Shore. These vessels caught 5% of all the crab fished by Quebec vessels.

Fishing effort (Table 11)

Like Southwestern Gulf crabbers, those of the Lower North Shore had a lower fishing effort in 1990. The three variables that determine fishing effort (Table 11) were all affected. The number of voyages was less, at 35.2. The number of days at sea was 44.5, for 39.7 fishing days. It may be seen that the overall decrease in fishing effort was caused by a decrease in all three regions at once.

Landings (Tables 12, 13 and 14)

It appears that the shortage of stocks was still being felt in this region; however, the crab catch was still greater in 1990, at 2.4 times that of 1989. We also noted that the tendency of these crabbers to fish for groundfish seems to be declining, although it is still there. Many crabbers thus succeeded in increasing their crab catch to the point where 50% of the value of landings was made up of crab. However, as for last

year, even those who to not satisfy this condition but nevertheless had a crab-fishing licence for this area are included in this fleet.

Table 12 shows average landings of 31.3 T for this fleet. This is a decrease due to the substitution of cod fishing for crab fishing. This substitution, together with the significant increase in the price of crab, 31¢ a kg, also explains the increase in the value of the average landing, which rose to $27,672, an increase of over 11%.

A quick glance at the Lower North Shore shows us an improvement in Area 15, while areas 13 and 14 demonstrated stability in earnings despite a lower volume. Earnings for the first area rose from $21,379 to $36,898 while the two others remained fairly stable at $20,986 and $35,013 respectively.

Financial performance (Table 15)

With an increase in the price of crab and a decrease in fishing effort, crabbers improved their financial situation, going from losses of $3,284 in 1989 to slight losses of $74.

Estuary and Middle North Shore crabbers

The Estuary and Middle North Shore crab fleet is made up of 58 vessels, which can be broken down into two separate fleets based on the management areas in which they operate. Of these, 36 are licensed to fish in Management Area 16, while 22 vessels have access to snow crab stocks in Area 17.

Area 16 crabbers

In 1990, there was no increase in the number of vessels, leaving the total still at 36; however, in 1990, all vessels could be considered active according to the 25% rule, whereas in 1989 one vessel failed to satisfy this condition. Their landings were 91% crab and their total landings accounted for 45% of the Quebec crab catch.

Fishing effort (Table 11a)

The Area 16 crabber fleet is one of the rare fleets to have increased its average fishing effort in 1990. The 36 vessels made 47.9 fishing voyages, spending 63.1 days at sea and fishing for 55.8 days. Their effort was, however, slightly lower than that of Area 17 crabbers.

Snow crab

Landings (Tables 12a, 13a and 14a)

The increase in fishing effort was necessarily reflected in the average volume of landings by this fleet. From 59.1 T in 1989, it increased to 95.1 T this year. Price rose from $2.39 to $2.44 and, with the increase in volume, caused fishing earnings to rise to $216,737, an increase of 89% over 1989.

Financial performance (Table 15a)

Such a major increase in gross fishing earnings resulted in greater cash flow, which increased over 2.5 times, from $41,009 to $108,591. The ratio of cash flow to gross earnings also increased from 36% to 50%, indicating a somewhat more efficient fishery.

Area 17 crabbers

As in the case of Area 16 crabbers, no new vessels were added to this fleet in 1990, which stood at a total of 22; the volume of crab fished represented 75% of the average landing, and these crabbers accounted for 12% of the total Quebec crab catch.

Fishing effort (Table 11a)

Although Area 17 crabbers did not increase their fishing effort in 1990, it was still the highest of all crabber fleets, and has remained relatively stable from 1989 to 1990. A total of 61.9 voyages were made, with 63.3 days spent at sea and 62.4 days fishing during the season.

Landings (Tables 12a, 13a and 14a)

Even though their fishing effort was maintained, the average volume of landings by this fleet dropped from 61.7 T to 50.4 T, a reduction of 18%. However, the volume of snow crab caught increased slightly, to 37.9 T. A 22¢ a kg decrease in the price of crab thus explains the decrease in the average landing value, which rose to $110,084 in 1990 from $124,236 in 1989. Gross fishing earnings thus fell by 11%.

Financial performance (Table 15a)

The decrease in gross earnings resulted in a decrease of 26% in cash flow. From $65,011 in 1989, it fell to $48,373. The ratio of cash flow to gross fishing earnings decreased from 52% to 44%.

Figure 6

ECONOMIC PICTURE OF THE SNOW CRAB FISHERY, 1990

Snow crab	
volume (mt)	value (000')
6 952	17 196

South Western Gulf crabbers				
active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
47	244	59 666	131 008	20 685

Lower North Shore crabbers				
active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
61	238	34 720	30 032	(74)

Estuary & Middle North Shore crabbers 16				
active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
36	122	92 870	214 863	108 591

Estuary & Middle North Shore crabbers 17				
active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
22	86	56 592	128 966	48 373

Figure 6a

PICTURE OF THE LOWER NORTH SHORE CRABBERS, 1990

Lower North Shore Crabbers [1]		
active vessels	total	
	volume mt	value 000'$
61	1 907	1 688

Zone 13 Crabbers		
active vessels	average	
	volume kg	value $
33	27 761	20 986

Zone 15 Crabbers		
active vessels	average	
	volume kg	value $
8	24 114	36 898

Zone 14 Crabbers		
active vessels	average	
	volume kg	value $
20	39 884	35 013

1 / Distributed according to the fishing zone.

TABLE 11

AVERAGE FISHING EFFORT
SNOW CRAB FISHING FLEETS
1988 AND 1989

FISHING EFFORT	CRABBERS SOUTH-WEST OF GULF		CRABBERS LOWER NORTH SHORE	
	1989	1990	1989	1990
Number of active vessels	47	47	63	61
Number of fishing trips	18.8	17.0	43.5	35.2
Number of days at sea	41.7	31.0	54.4	44.5
Number of fishing days	28.9	24.6	49.0	39.7

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 11a

AVERAGE FISHING EFFORT
SNOW CRAB FISHING FLEETS
1988 AND 1989

FISHING EFFORT	CRABBERS ESTUARY & MIDDLE NORTH SHORE ZONE 16		ZONE 17	
	1989	1990	1989	1990
Number of active vessels	35	36	22	22
Number of fishing trips	41.3	47.9	61.7	61.9
Number of days at sea	57.7	63.1	65.2	63.3
Number of fishing days	47.7	55.8	62.4	62.4

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 12

AVERAGE LANDED VOLUME (KG)
SNOW CRAB FISHING FLEETS
1989 AND 1990

SPECIES	CRABBERS SOUTH-WEST OF GULF 1989	1990	CRABBERS LOWER NORTH SHORE 1989	1990
Cod	3349	3294	36697	22314
Haddock	-	-	-	-
Redfish	-	-	224	145
Halibut	15	4	6	6
Plaice	106	27	2042	724
Turbot	-	-	2305	567
Other groundfish	4	210	85	60
Herring	252	5295	349	286
Mackerel	222	36	-	15
Capelin	-	-	942	424
Salmon	-	-	12	7
Other pelagic	95	201	2	1
Scallops	-	-	604	515
Lobster	-	-	-	-
Shrimp	-	249	-	-
Crab	72329	52613	2523	6194
Other moll. and crust.	-	-	-	-
Other items	-	-	54	-
Total	76372	61930	45845	31258

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 12a

AVERAGE LANDED VOLUME (KG)
SNOW CRAB FISHING FLEETS
1989 AND 1990

SPECIES	CRABBERS ESTUARY & MIDDLE NORTH SHORE ZONE 16		ZONE 17	
	1989	1990	1989	1990
Cod	8944	3606	1921	687
Haddock	-	-	-	-
Redfish	260	34	281	64
Halibut	33	17	10	30
Plaice	1585	1305	47	22
Turbot	1856	527	22995	6141
Other groundfish	22	1	31	23
Herring	308	2050	1529	5284
Mackerel	-	-	-	-
Capelin	-	-	-	-
Salmon	-	-	-	-
Other pelagic	-	-	25	14
Scallops	2498	508	-	-
Lobster	-	-	-	-
Shrimp	-	-	-	-
Crab	43579	86647	34831	37924
Other moll. and crust.	-	413	46	186
Other items	-	-	-	-
Total	59085	95108	61716	50373

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 13

AVERAGE LANDED VALUE ($)
SNOW CRAB FISHING FLEETS
1988 AND 1989

SPECIES	CRABBERS SOUTH-WEST OF GULF		CRABBERS LOWER NORTH SHORE	
	1989	1990	1989	1990
Cod	2050	2167	16039	12810
Haddock	-	-	-	-
Redfish	-	-	64	33
Halibut	9	11	29	24
Plaice	65	16	1203	406
Turbot	-	-	2101	671
Other groundfish	1	62	26	35
Herring	33	1152	107	62
Mackerel	51	8	-	5
Capelin	-	-	159	56
Salmon	-	-	69	30
Other pelagic	1096	2662	1	-
Scallops	-	-	625	547
Lobster	-	-	-	-
Shrimp	-	314	-	-
Crab	199320	127653	4519	12991
Other moll. and crust.	-	-	-	-
Other items	-	-	89	-
Total	202625	134046	25031	27672

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 13a

AVERAGE LANDED VALUE ($)
SNOW CRAB FISHING FLEETS
1988 AND 1989

SPECIES	CRABBERS ESTUARY & MIDDLE NORTH SHORE ZONE 16		ZONE 17	
	1989	1990	1989	1990
Cod	4572	2093	1360	611
Haddock	-	-	-	-
Redfish	70	11	99	26
Halibut	111	96	13	161
Plaice	1279	976	35	20
Turbot	1820	657	23036	7710
Other groundfish	6	1	15	7
Herring	102	681	311	1721
Mackerel	-	-	-	-
Capelin	-	-	-	-
Salmon	-	-	-	-
Other pelagic	-	-	101	68
Scallops	2666	522	-	-
Lobster	-	-	-	-
Shrimp	-	-	-	-
Crab	104056	211435	99251	99637
Other moll. and crust.	-	266	15	123
Other items	-	-	-	-
Total	114682	216737	124236	110084

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 14

AVERAGE LANDED VALUE ($/KG)
SNOW CRAB FISHING FLEETS
1989 AND 1990

SPECIES	CRABBERS SOUTH-WEST OF GULF 1989	CRABBERS SOUTH-WEST OF GULF 1990	CRABBERS LOWER NORTH SHORE 1989	CRABBERS LOWER NORTH SHORE 1990
Cod	0.61	0.66	0.44	0.57
Haddock	-	-	-	-
Redfish	-	-	0.29	0.23
Halibut	0.60	2.66	4.83	4.40
Plaice	0.61	0.60	0.59	0.56
Turbot	-	0.76	0.91	1.18
Other groundfish	0.25	0.29	0.31	0.59
Herring	0.13	0.22	0.31	0.22
Mackerel	0.23	0.22	-	0.33
Capelin	-	-	0.17	0.13
Salmon	-	-	5.75	4.27
Other pelagic	11.54	13.27	0.50	0.34
Scallops	-	-	1.03	1.06
Lobster	-	-	-	-
Shrimp	-	1.26	-	-
Crab	2.76	2.43	1.79	2.10
Other moll. and crust.	-	-	-	-
Other items	-	-	1.65	-
Average price per kg captured	2.65	2.16	0.55	0.89

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 14a

AVERAGE LANDED VALUE ($/KG)
SNOW CRAB FISHING FLEETS
1989 AND 1990

SPECIES	CRABBERS ESTUARY & MIDDLE NORTH SHORE ZONE 16		ZONE 17	
	1989	1990	1989	1990
Cod	0.51	0.58	0.71	0.89
Haddock	-	-	-	-
Redfish	0.27	0.31	0.35	0.42
Halibut	3.36	5.71	1.30	5.34
Plaice	0.81	0.75	0.74	0.89
Turbot	0.98	1.25	1.00	1.26
Other groundfish	0.27	2.14	0.48	0.32
Herring	0.33	0.33	0.20	0.33
Mackerel	-	-	-	-
Capelin	-	-	-	-
Salmon	-	-	-	-
Other pelagic	-	-	4.04	4.96
Scallops	1.07	1.03	-	-
Lobster	-	-	-	-
Shrimp	-	-	-	-
Crab	2.39	2.44	2.85	2.63
Other moll. and crust.	-	0.64	0.33	0.66
Other items	-	-	-	-
Average price per kg captured	1.94	2.28	2.01	2.19

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 15

AVERAGE CASH FLOW INCOME
SNOW CRAB FISHING FLEETS
1988 AND 1989

CASH FLOW INCOME	CRABBERS SOUTH-WEST OF GULF		CRABBERS LOWER NORTH SHORE	
	1989	1990	1989	1990
REVENUE				
Fishing revenue	200761	130883	28498	30032
Other revenue	125	125	-	-
Total revenue	200886	131008	28498	30032
COSTS				
Fixed operating costs	13542	13542	1661	1661
Maintenance costs	8131	6045	2019	1652
Gear costs	10299	7656	3863	3160
Variable operating costs A	19763	17871	1534	1241
Variable operating costs B	10989	8169	6227	5094
Labour costs	63301	41268	15233	16053
Financial expenses	15772	15772	1245	1245
Total costs	141797	110323	31782	30106
CASH FLOW INCOME	59 089	20 685	(3 284)	(74)

TABLE 15a

AVERAGE CASH FLOW INCOME
SNOW CRAB FISHING FLEETS
1988 AND 1989

CASH FLOW INCOME	CRABBERS ESTUARY & MIDDLE NORTH SHORE ZONE 16		ZONE 17	
	1989	1990	1989	1990
REVENUE				
Fishing revenue	118296	214863	150728	128966
Other revenue	-	-	-	-
Total revenue	118296	214863	150728	128966
COSTS				
Fixed operating costs	6342	6342	9234	9234
Maintenance costs	3766	4118	4129	4009
Gear costs	12022	13147	11387	11055
Variable operating costs A	7547	8753	9654	9685
Variable operating costs B	6471	7077	6945	6743
Labour costs	31478	57174	31176	26675
Financial expenses	9661	9661	13192	13192
Total costs	77 287	106 272	85717	80593
CASH FLOW INCOME	41 009	108 591	65 011	48 373

3. Species: other molluscs and crustaceans

Species: Shrimp

Shrimping in the Gulf of St. Lawrence is restricted to the 134 enterprises licensed for that species. Their license gives them access to the 5 shrimp stocks identified in the Gulf of St. Lawrence (Appendix E), which come under the same management plan. Of these 134 enterprises, 56 are located in Quebec, of which 47 were considered active in 1990. For the purposes of our analysis, we have excluded shrimpers over 100 feet in length since their operations deal with stocks found outside the Gulf of St. Lawrence. These vessels will be found in the "other fleets" section under the heading "vessels over 100 feet in length". The fleet of shrimpers alone lands over 70% of all the shrimp caught by Quebec enterprises.

Fishing effort (Table 16)

There was one active vessel less than in 1989. The 47 active vessels made an average of 22.1 fishing voyages in 1990, spending 156 days at sea and fishing for 114.6 days. Compared to 1989, these figures showed a slight decrease in effort.

Landings (Tables 17, 18 and 19)

The average volume of shrimp caught by a typical shrimper has increased steadily since 1986. In 1990, volume rose to 200.3 T following a slight 2% increase. The total volume increased by 4% to 238.1 T. The decrease of 17¢ per kg contributed to a decline in the value of the average landing, which fell from $284,465 to $261,901, for a decrease of 8%.

Financial performance (Table 20)

It would seem that the decrease in costs due to the decrease in fishing is proportional to the decrease in fishing earnings, so that cash flow remained relatively stable from 1989 to 1990, rising from $54,201 to $54,900. This means that shrimpers were slightly more efficient in their fishing, since the proportion of cash flow to gross fishing earnings rose from 19% to 21%.

Species: lobster

A commercial lobster fishery exists in each of Quebec's three maritime sectors. In 1990, there were 651 lobster fishing licenses in Quebec, 3 more than in 1989. The largest sub-fleet is located in the Magdalen Islands, where we find 325 of Quebec's licenses. Gaspé follows with 223 licenses, while the North Shore and Anticosti Island has 88 and 15 respectively. The Quebec lobster fleet caught 93% of all the lobster caught by Quebec fleets in 1990. It should also be noted that the fishing effort of Magdalen Islands lobster fishermen and those of Gaspé shown in Table 16a is an estimate based on the 1989 Costs and Earnings.

Magdalen Islands lobster vessels

This fleet had 321 vessels fishing in 1990; however, one vessel cannot be considered active. There thus were 320 active vessels in 1990, which accounted for 70% of Quebec landings of lobster and 75% of landings of the total lobster fleet.

Fishing effort (Table 16a)

The 320 active vessels significantly improved their fishing effort in 1990. This increase in fishing effort may be due to the decrease in the landing price of lobster. To maintain their earnings, lobster fishermen would attempt to increase volume by a greater fishing effort. They thus had 106.9 fishing voyages, 104.5 days at sea and 102.3 fishing days.

Landings (Tables 17a, 18a and 19a)

The total volume of fish caught by this fleet rose from 11.3 T to 12.6 T, or 12% more. For lobster, the increase was slight, at 2%. This increase in quantity was not enough to maintain the value of the average landing, which dropped by 28%, mainly because of the $1.91 a kg decrease in the landing price of this fleet. The gross fishing earnings of Magdalen Islands lobster fishermen was thus $30,149 in 1990.

Financial performance (Table 20a)

The Magdalen Islands fleet saw the cash flow of its vessels divided by 4 in 1990, dropping from $15,570 to $3,839. These lobster fishermen experienced the greatest decline in cash flow.

Gaspé lobster vessels

The lobster vessels of this geographical area may be considered the second largest fleet in Quebec in terms of number of vessels. Of the 223 licenses issued for this region, 191 vessels fished for lobster and 189 in all were considered active. Active vessels caught 20% of all the lobster taken by all Quebec vessels. Of all the lobster vessels, this fleet accounted for 22% of all the lobster caught.

Fishing effort (Table 16a)

Fishing effort by these vessels decreased slightly in comparison with 1989. There were as many days at sea as fishing voyages, 79.9, and a few less fishing days at 77.

Landings (Tables 17a, 18a and 19a)

The volume caught in 1990 by these vessels was 11.2 T compared to 12.1 T the previous year. Despite a slight decline in total average volume, the proportion of lobster in this volume increased in 1990 from 2.8 T to 3.5 T, or 700 kg more per vessel. This increase in the volume of lobster was not, however, successful in maintaining the value of landings at 1989 levels. The $1.95 decrease in the landing price was the main cause. The value of gross earnings thus dropped to $17,653, 14% less than in 1989.

Financial performance (Table 20a)

Cash flow decreased in a greater proportion than the decrease in gross fishing earnings, which declined by 23% to $3,197. In percentage of gross fishing earnings, there is a marginal decrease in the efficiency ratio, which was 18%. This indicates relatively stable efficiency.

Species: scallops

Scallops were fished in each of the three main maritime areas of Quebec. In 1990, there were 73 regular licenses and 4 exploratory licenses. Of these licenses, 37 gave scallops as the main species fished and 26 were considered active. These vessels accounted for 73% of all the scallops caught by Quebec vessels.

Fishing effort (Table 16)

With 6 vessels more in 1990, scallopers increased their fishing effort for the second consecutive year, making 49.7 fishing voyages during which they spent 82.4 days at sea and fished on 74.3 days.

Landings (Tables 17, 18 and 19)

The increase in fishing effort also affected the average volume of landings by a typical vessel. There are two interesting features of this average landing. The volume of scallops rose from 66.1 T to 99.8 T, an increase of 51%, and scallop fishermen practically ceased fishing all other species. This means that the total volume was basically the same as the volume of scallops. Given the stable price, it is normal that gross fishing earnings by vessels in this fleet increased. This increase amounted to 48% and caused gross earnings to rise to $105,931.

Financial performance (Table 20)

The increase in gross earnings is more than proportional to the increase in costs due to greater fishing effort. Cash flow improved by over $10,000 to $20,867. It may also be seen that the ratio of cash flow to gross fishing earnings increased by 15% to 20%, leading us to believe that fishing by these vessels was more efficient in 1990.

Figure 7

ECONOMIC PICTURE OF THE SHRIMP, LOBSTER AND SCALLOP FISHERIES, 1990

Shrimps	
volume mt	value 000'$
13 226	20 870

Lobster	
volume mt	value 000'$
3 316	13 363

Scallops	
volume mt	value 000'$
3 572	3 836

Shrimpers

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
47	207	244 353	274 880	54 900

Scallopers

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
26	91	69 203	73 443	20 867

Lobster boat Magdalen Islands

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
320	832	16 732	33 567	3 839

Lobster boat Gapesia

active vessels	fishermen	average		
		volume kg	gross $ revenue	cash flow $ income
189	397	20 642	21 171	3 197

TABLE 16

AVERAGE FISHING EFFORT
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1988 AND 1989

FISHING EFFORT	SHRIMPERS		SCALLOPERS	
	1989	1990	1989	1990
Number of active vessels	48	47	20	26
Number of fishing trips	27.0	22.1	35.5	49.7
Number of days at sea	180.4	156.0	70.5	82.4
Number of fishing days	137.3	114.6	61.7	74.3

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 16a

AVERAGE FISHING EFFORT
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1988 AND 1989

FISHING EFFORT	LOBSTER BOATS			
	Magdalen Islands		Gaspesia	
	1989	1990	1989	1990
Number of active vessels	324	320	202	189
Number of fishing trips	92.0	106.9	83.0	79.9
Number of days at sea	90.0	104.5	83.0	79.9
Number of fishing days	89.0	102.3	80.0	77.0

Source 1989: Costs and Earnings 1989, Economic Division MFO Quebec.
Source 1990: Estimates based on Costs and Earnings 1989.

TABLE 17

AVERAGE LANDED VOLUME (KG)
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1989 AND 1990

SPECIES	SHRIMPERS		SCALLOPERS	
	1989	1990	1989	1990
Cod	16504	26300	639	8
Haddock	-	-	-	-
Redfish	6469	5327	-	-
Halibut	384	368	-	-
Plaice	2417	2961	15	-
Turbot	6336	2670	-	-
Other groundfish	8	11	-	-
Herring	167	100	550	-
Mackerel	-	-	243	7
Capelin	-	-	32	-
Salmon	-	-	-	-
Other pelagic	1	44	-	-
Scallops	-	-	66115	99753
Lobster	-	-	-	-
Shrimp	196593	200331	-	-
Crab	-	-	-	-
Other moll. and crust.	-	-	-	-
Other items	-	-	-	-
Total	228879	238111	67594	99767

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 17a

AVERAGE LANDED VOLUME (KG)
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1989 AND 1990

SPECIES	LOBSTER BOATS			
	Magdalen Islands		Gaspesia	
	1989	1990	1989	1990
Cod	821	1262	514	386
Haddock	-	-	-	-
Redfish	-	-	-	-
Halibut	13	12	3	3
Plaice	47	125	271	223
Turbot	-	-	-	-
Other groundfish	22	110	36	104
Herring	3	181	5328	5031
Mackerel	3143	3245	1449	1522
Capelin	-	-	-	-
Salmon	-	-	-	-
Other pelagic	4	94	1	11
Scallops	173	352	-	-
Lobster	7071	7224	2843	3545
Shrimp	-	-	-	-
Crab	-	-	-	5
Other moll. and crust.	1	6	1630	389
Other items	-	-	2	3
Total	11298	12613	12077	11610

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 18

AVERAGE LANDED VALUE ($)
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1989 AND 1990

SPECIES	SHRIMPERS		SCALLOPERS	
	1989	1990	1989	1990
Cod	7780	15319	338	5
Haddock	-	-	-	-
Redfish	2008	1166	-	-
Halibut	893	953	-	-
Plaice	1247	1607	10	-
Turbot	3995	2038	-	-
Other groundfish	7	6	-	-
Herring	37	22	97	-
Mackerel	-	-	80	3
Capelin	-	-	11	-
Salmon	-	-	-	-
Other pelagic	-	482	-	-
Scallops	-	-	70990	105923
Lobster	-	-	-	-
Shrimp	268498	240308	-	-
Crab	-	-	-	-
Other moll. and crust.	-	-	-	-
Other items	-	-	-	-
Total	284465	261901	71526	105931

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 18a

AVERAGE LANDED VALUE ($)
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1989 AND 1990

SPECIES	LOBSTER BOATS			
	Magdalen Islands		Gaspesia	
	1989	1990	1989	1990
Cod	436	876	360	299
Haddock	-	-	-	-
Redfish	-	-	-	-
Halibut	39	49	9	12
Plaice	36	94	150	132
Turbot	-	-	-	-
Other groundfish	6	36	15	50
Herring	1	28	703	875
Mackerel	906	1048	323	338
Capelin	-	-	-	-
Salmon	-	-	-	-
Other pelagic	17	256	1	6
Scallops	208	374	-	-
Lobster	40278	27381	18167	15722
Shrimp	-	-	-	-
Crab	-	-	-	3
Other moll. and crust.	-	8	780	214
Other items	-	-	3	3
Total	41927	30149	20511	17653

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 19

AVERAGE LANDED VALUE ($/KG)
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1989 AND 1990

SPECIES	SHRIMPERS		SCALLOPERS	
	1989	1990	1989	1990
Cod	0.47	0.58	0.53	0.66
Haddock	-	-	-	-
Redfish	0.31	0.22	-	-
Halibut	2.33	2.59	-	-
Plaice	0.52	0.54	0.67	-
Turbot	0.63	0.76	-	-
Other groundfish	0.88	0.54	-	-
Herring	0.22	0.22	0.18	-
Mackerel	-	-	0.33	0.39
Capelin	-	-	0.34	-
Salmon	-	-	-	-
Other pelagic	-	10.96	-	-
Scallops	-	-	1.07	1.06
Lobster	-	-	-	-
Shrimp	1.37	1.20	-	-
Crab	-	-	-	-
Other moll. and crust.	-	-	-	-
Other items	-	-	-	-
Average price per kg captured	1.24	1.10	1.06	1.06

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 19a

AVERAGE LANDED VALUE ($/KG)
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1989 AND 1990

SPECIES	LOBSTER BOATS			
	Magdalen Islands		Gaspesia	
	1989	1990	1989	1990
Cod	0.53	0.69	0.70	0.77
Haddock	-	0.79	-	-
Redfish	-	-	-	-
Halibut	3.00	4.00	3.00	3.94
Plaice	0.77	0.75	0.55	0.59
Turbot	-	-	-	-
Other groundfish	0.27	0.32	0.42	0.48
Herring	0.17	0.16	0.13	0.17
Mackerel	0.29	0.32	0.22	0.22
Capelin	-	-	-	-
Salmon	-	-	-	-
Other pelagic	4.25	2.71	1.00	0.55
Scallops	1.20	1.06	-	-
Lobster	5.70	3.79	6.39	4.44
Shrimp	-	-	-	-
Crab	-	-	-	0.55
Other moll. and crust.	-	1.21	0.48	0.55
Other items	-	-	1.50	1.00
Average price per kg captured	3.71	2.39	1.70	1.52

Source: Statistic division, DFO Quebec region.
Compilation: Economic services division, DFO Quebec region.

TABLE 20

AVERAGE CASH FLOW INCOME
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1989 AND 1990

CASH FLOW INCOME	SHRIMPERS		SCALLOPERS	
	1989	1990	1989	1990
REVENUE				
Fishing revenue	292280	274880	52742	73443
Other revenue	-	-	-	-
Total revenue	292280	274880	52742	73443
COSTS				
Fixed operating costs	21559	21559	2681	2681
Maintenance costs	14994	12966	3602	4210
Gear costs	16135	13953	2370	2770
Variable operating costs A	13495	11046	3651	5111
Variable operating costs B	46033	39807	7300	8532
Labour costs	87573	82360	16621	23145
Financial expenses	38290	38290	6127	6127
Total costs	238079	219980	42352	52576
CASH FLOW INCOME	54 201	54 900	10 390	20 867

TABLE 20a

AVERAGE CASH FLOW INCOME
OTHER MOLLUSCS AND CRUSTACEANS FISHING FLEETS
1989 AND 1990

CASH FLOW INCOME	LOBSTER BOATS			
	Magdalen Islands		Gaspesia	
	1989	1990	1989	1990
REVENUE				
Fishing revenue	45162	33567	22989	21171
Other revenue	-	-	-	-
Total revenue	45162	33567	22989	21171
COSTS				
Fixed operating costs	1983	1983	1116	1116
Maintenance costs	2790	3241	1600	1540
Gear costs	2993	3476	3561	3428
Variable operating costs A	5574	6474	2465	2373
Variable operating costs B	2968	3447	2325	2238
Labour costs	8481	6304	6495	5981
Financial expenses	4803	4803	1297	1297
Total costs	29592	29728	18859	17974
CASH FLOW INCOME	15 570	3 839	4 130	3 197

4. Other fleets

Other fleets and other species

In this final section, we offer a rough portrait of those fleets not analysed in the preceding sections. These are fleets for which we do not have sufficient financial data to estimate performance for 1990, but which are nevertheless clearly identifiable in fishing operations by Quebec vessels. The new 25% rule applied in 1989 means we must add a line to Figure 8 for "insufficient landings". This item shows the number of vessels excluded from the fleets already studied because the total value of their landings was too small, as was the total of the value and volume of their landings.

In all, the other fleets landed 26,387 T for a value of $22.9 million. These landings are shown in the items mentioned above and in Figure 8.

Vessels over 100 feet in length

Of the fleets in this section, vessels over 100 feet in length unquestionably form the major segment, in terms of volume landed. This group is made up of 9 vessels, 3 of them fishing mainly shrimp and the 6 others trawling for redfish. These latter vessels had average landings of 1,946.3 T for a value of $1,413,525.

Whelk fishing fleet

The whelk fleet was larger this year than last year. Where only one vessel could be considered active in 1989, in 1990 there were 10. These vessels had an average landing of 24.8 T for a value of $12,752.

Handline fishing fleet

There are 24 fishing enterprises in Quebec that derive their principal income from the use of fishing gear involving handlines. These enterprises landed an average of 4.9 T of fish. In 1990, the greater part of their catch consisted of cod and mackerel with 2.7 T and 2.0 T respectively. The average gross earnings of these enterprises was $2,591.

Other fleets

Non-vessel landings

There are certain species which are fished primarily from the shore and for which landings are not generally associated with the use of a vessel. Species classified in this category in 1990 include mussels and eel.

Landings recorded in this category totalled 750.3 T in 1990, for a value of $1.7 million. These data should be viewed with some caution, however, It is quite possible that they have been underestimated, since some fishermen with vessels engage in some of these types of fishing without using their vessel, yet record their landings under the numbers of their commercial fishing vessels.

Non-Quebec vessels

A total of 112 vessels registered in another province made at least one landing in Quebec in 1990. Most of these vessels came from the west coast of Newfoundland and northern New Brunswick. Their landings in Quebec totalled 1,902 T and 83% was made up of groundfish. These landings amounted to $1.2 million in value. On average, these vessels fished approximately 17 T for a value of $10,671.

Insufficient landings

In 1990, there were 20 vessels less than in 1989 in this category, or 198. These vessels failed to satisfy the criteria whereby a vessel must land at least 25% of the average value of landings of its fleet, all vessels included, to be considered active in that fleet. The total volume landed by these vessels was 713.6 T, or 0.8% of the total volume landed by Quebec enterprises. In value, the total amounted to $378,232 and accounted for 0.4% of the total value of landings by Quebec enterprises.

Figure 8

PICTURE OF THE OTHER FISHING FLEETS, 1990

Other fleets

volume mt	value 000'$
26 387	22 870

Vessels > 100 feet

active vessels	average	
	volume kg	value $
9	1 946 345	1 413 525

Whelk

active vessels	average	
	volume kg	value $
10	24 763	12 752

Handlines

active vessels	average	
	volume kg	value $
24	4 936	2 591

Landings without vessel

active vessels	total	
	volume t	value $
—	750 331	1 711 564

Non-Quebec vessels

active vessels	average	
	volume kg	value $
112	16 985	10 671

Insufficient landings

active vessels	average	
	volume kg	value $
198	713 623	378 232

APPENDICES

APPENDIX A

Methodology for estimation of the financial performance of each of the fishing fleets for inter-sample years

The methodology for estimation of the financial performance of Quebec's various fishing fleets for 1990 involves the use of an impact matrix, which operated according to the rule of three.

The basic idea is to identify each of the variables having an impact on the financial performance of the fleets and to allow the impact matrix to take them into consideration. Thus, the impact matrix developed for the purposes of this study makes it possible to take into account the following variables:

- volume landed by species
- landing price for each species
- number of active vessels in each fleet
- average fishing effort by each fleet

On the basis of the results obtained by surveys of 352 owners of fishing vessels in Quebec in 1989, the Economic Services Division has analysed the financial position of 16 of the province's fishing fleets. These fleets are:

- groundfish trawlers less than 50 feet in length
- groundfish trawlers 50 to 65 feet in length
- Scottish seiners
- groundfish longliners under 35 feet in length
- pelagic species longliners under 35 feet in length
- groundfish longliners 35 to 49 feet 11 inches in length
- pelagic species longliners 35 to 49 feet 11 inches in length
- longliners 50 feet in length and over
- Southwestern Gulf crabbers

APPENDIX A

- St. Lawrence Estuary and Middle North Shore inshore crabbers Area 16
- St. Lawrence Estuary and Middle North Shore inshore crabbers Area 17
- Lower North Shore crabbers
- Quebec shrimpers
- Magdalen Islands lobster vessels
- Gaspé lobster vessels
- Quebec scallopers

Estimation of 1990 results

Fishing earnings

The estimate of fishing earnings for 1990 takes into account variations in the number of active vessels and variations in the volume and value of landings by species.

For each of the fleets, we first calculate the volume and value of landings by species for the years 1989 and 1990. Using the number of active vessels for each of these two years, we determine the volume and average value of landings by species per vessel. These data enable us to obtain the variation (in %) in the volume of landings, together with the unit landing price obtained for each species. We then use the following formulas to calculate, for our sample, the volume and value of landings of each species for 1990:

Volume:

$$(\text{Volume}_i\ 90)^s = (\text{Volume}_i\ 89)^s * (1 + (\neq\text{Volume}_i)^p) \qquad (1)$$

where $(\text{Volume}_i\ 90)^s$ = Average volume of landings for species i in 1990 by the sample

$(\text{Volume}_i\ 89)^s$ = Average volume of landings for species i in 1989 by the sample

$(\neq\text{Volume}_i)^p$ = Variation (in %) from 1989 to 1990 in average volume of landings for species i by the population

^{s} = sample ^{p} = population

Value:

$$(\text{Value}_i\ 90)^S = (\text{Volume}_i\ 90)^S * (\text{Price}_i\ 90)^P \qquad (2)$$

where $(\text{Value}_i\ 90)^S$ = Average value of species i landed in 1990 by the sample

$(\text{Price}_i\ 90)^P$ = Unit value of landings of species i by the population in 1990

Summation of the "$(\text{Value}_i\ 90)^S$" values obtained for each species yields the total fishing earnings for the average enterprise for 1989.

Operating costs

Operating costs are subject to variations in fishing effort. No detailed definition of operating costs will be attempted except in instances where the methodology used required us to group the costs in a manner other than that described in APPENDIX C. At this point, then, we shall simply explain the calculations used to estimate operating costs for 1990.

Fixed operating costs

As their name indicates, these costs are not related to the fishing effort made from year to year, nor to variations in landing prices but are considered to be constant in the short term. They were thus carried forward from 1989 to 1990.

Maintenance costs

Maintenance costs are considered as capable of varying with the intensity of utilization of the vessel. Consequently, they vary with the average number of days at sea. The formula used is as follows:

$$(\text{Maint.costs } 90)^S = (\text{Maint.costs } 89)^S * (1 + (\text{\#Days at sea})^P) \qquad (3)$$

where $(\text{Maint.costs } 90)^S$ = Maintenance costs of the sample for 1990

$(\text{Maint.costs } 89)^S$ = Maintenance costs of the sample for 1989

$(\text{\#Days at sea})^P$ = Variation (in %) from 1989 to 1990 in the average number of days at sea for the population

APPENDIX A

Gear costs

Gear costs for 1990 were estimated in the same way as maintenance costs. They are based on the variation in the fleets' average number of days at sea. Maintenance costs are simply replaced by gear costs in Equation (3).

Variable operating costs

Variable operating costs were divided into two categories in order to differentiate between costs which were determined by the number of voyages and those determined by the number of days at sea.

Variable costs A

These costs are based on the average number of voyages. The costs in this category include the costs of ice and salt, bait costs, labour costs on shore and all variable costs relating to the use of equipment, facilities and vehicles on shore. The formula used in the calculation is as follows:

$$(\text{Costs A } 90)^s = (\text{Costs A } 89)^s * (1 + (\#\text{voyages})^p) \qquad (4)$$

where $(\text{Costs A } 90)^s$ = Variable costs which are a function of the number of fishing voyages for the sample in 1990

$(\text{Costs A } 89)^s$ = Variable costs which are a function of the number of fishing voyages for the sample in 1989

$(\#\text{voyage})^p$ = Variation (in %) from 1989 to 1990 in the average number of fishing voyages for the population

Variable costs B

These costs vary with the average number of days spent at sea. The costs considered in this category include the cost of petroleum products and provisions. The formula for estimating them is as follows:

$$(\text{Costs B } 90)^s = (\text{Costs B } 89)^s * (1 + (\#\text{days at sea})^p) \qquad (5)$$

where

$(\text{Costs B } 90)^s$ = Variable costs which vary with the number of days at sea for the sample in 1990

$(Costs\ B\ 89)^S$ = Variable costs which vary with the number of days at sea for the sample in 1989

$(\#days\ at\ sea)^P$ = Variation (in %) from 1989 to 1990 in the average number of days at sea for the population

Labour costs

The majority of fishing crews are paid a certain percentage of the value of the landings; consequently, labour costs are calculated on the basis of a percentage, fixed from 1989 to 1990, of the value of landings. They include the net cost of wages paid to the crew (excluding the skipper) and the employer's CSST and unemployment insurance contributions. The formula used is thus as follows:

$$(L\ 90)^S = (Earnings\ 90)^S * ((L\ 89)^S / (Earnings\ 89)^S) \qquad (6)$$

where

$(L\ 90)^S$ = Labour costs for the sample in 1990

$(L\ 89)^S$ = Labour costs for the sample in 1989

$(Earnings\ 90)^S$ = Fishing earnings for the sample in 1990

$(Earnings\ 89)^S$ = Fishing earnings for the sample in 1989

Financial expenses

Financial expenses include interest costs and repayment of borrowed capital. These costs are kept constant in calculating cash flow, in order to eliminate any variation in cash flow arising out of a change in debt repayment.

The base year used in 1989, the last year for which we have detailed information from a direct survey of skipper-owners on the financial performance of Quebec's fishing fleets.

APPENDIX B

Definition of fleets

Trawlers under 50 feet in length

This fleet of trawlers consists of vessels licensed to fish for groundfish using mobile gear and having a length overall of under 49 feet 11 inches. In addition, groundfish species account for 50% or more of their landings. Scottish seiners are excluded from this fleet.

Trawlers 50 feet to 65 feet in length

This fleet of trawlers consists of vessels licensed to fish for groundfish using mobile gear and having a length overall of between 50 and 64 feet 11 inches. In addition, groundfish species account for 50% or more of their landings, in terms of value. Scottish seiners are excluded from this fleet.

Scottish seiners

The Scottish seiner fleet consists of vessels licensed to fish for groundfish with mobile gear, using a Scottish seine as their principal type of gear and deriving their principal earnings from landings of groundfish.

Longliners under 35 feet in length

Fleets of longliners under 35 feet in length consist of vessels which are licensed to fish for groundfish or pelagic species with fixed line gear (gillnet, longline, fascine, cod trap) and derive their principal earnings from the use of this gear. The length overall of these vessels does not exceed 34 feet 11 inches.

Longliners 35 feet to 50 feet in length

The fleet of longliners 35 to 50 feet in length consists of vessels which are licensed to fish for groundfish or pelagic species with fixed line gear (gillnet, longline, fascine, cod trap) and derive their principal earnings from the use of this gear. The length overall of these vessels is between 35 feet and 49 feet 11 inches.

Longliners 50 feet and over in length

The fleet of longliners 50 feet and over consists of vessels licensed to fish with fixed line gear (gillnet, longline, fascine, cod trap) and derive their principal earnings from the use of this gear. The length overall of these vessels is 50 feet and over. In addition groundfish species account for 50% or more of their landings, in terms of value.

Lower North Shore crabbers

The fleet of Lower North Shore crabbers consists of vessels licensed to fish for snow crab management areas 13, 14 and 15 (from Kegaska to Lourdes-de-Blanc-Sablon) and derive their principal fishing earnings from such operations.

Estuary and Middle North Shore crabbers

The fleet of Estuary and Middle North Shore crabbers consists of vessels licensed to fish for snow crab in management areas 16 and 17 and derive their principal fishing earnings from such operations.

Southwestern Gulf crabbers

The fleet of Southwestern Gulf crabbers consists of vessels licensed to fish for snow crab in management area 12 and derive their principal fishing earnings from such operations.

Shrimpers

The Quebec shrimp fleet consists of vessels which hold shrimp-fishing licences and which report their main fishing activity to be shrimp fishing.

Lobster vessels

The lobster fleet consists of vessels licensed to fish for lobster and deriving their principal fishing earnings from such operations. This fleet is subdivided into four regions: Magdalen Islands, Gaspé, North Shore and Anticosti Island.

APPENDIX B

Scallopers

The scallop fleet consists of vessels licensed to fish for scallops and deriving their principal fishing earnings from such operations.

APPENDIX C

Methodology for measuring the financial performance of the Quebec fishing fleet

The cash flow calculation expresses the financial performance of the various subfleets, taking into account the expenses actually incurred during the operations of the fishing enterprise. Cash flow does not take into account financial requirements associated with the renewal of assets; rather it reflects the financial performance for the year under study. For the purposes of this calculation, we assume that the owner has fulfilled all his obligations during the year (with the exception of financial expenses, where actual payments are considered).

Cash flow is calculated as follows:

GROSS EARNINGS minus

- Variable operating costs
- Maintenance and repair costs
- Gear costs
- Fixed operating costs (excluding interest)
- Labour costs
- Financial expenses

where

Gross earnings correspond to total earnings derived from the sale of fish and other earnings generated by the use of assets for purposes related to the operations of the fishing enterprise.

Variable operating costs include petroleum products, bait, ice, salt, provisions, unemployment insurance contributions (employer's share), CSST contributions, labour costs (excluding crew wages) and all other costs directly related to fishing operations (e.g. gloves, waterproof clothing, knives), including the variable costs associated with the utilization of assets other than the vessel (vehicles, facilities and equipment).

Maintenance and repair costs include all costs incurred to keep the assets of the enterprise (including vehicles, facilities and equipment used on shore) in good operating condition; however, they do not include costs related to maintenance and repair of gear.

Gear costs cover the net acquisition (purchase-sale) of fishing gear and the costs of maintaining and repairing such gear.

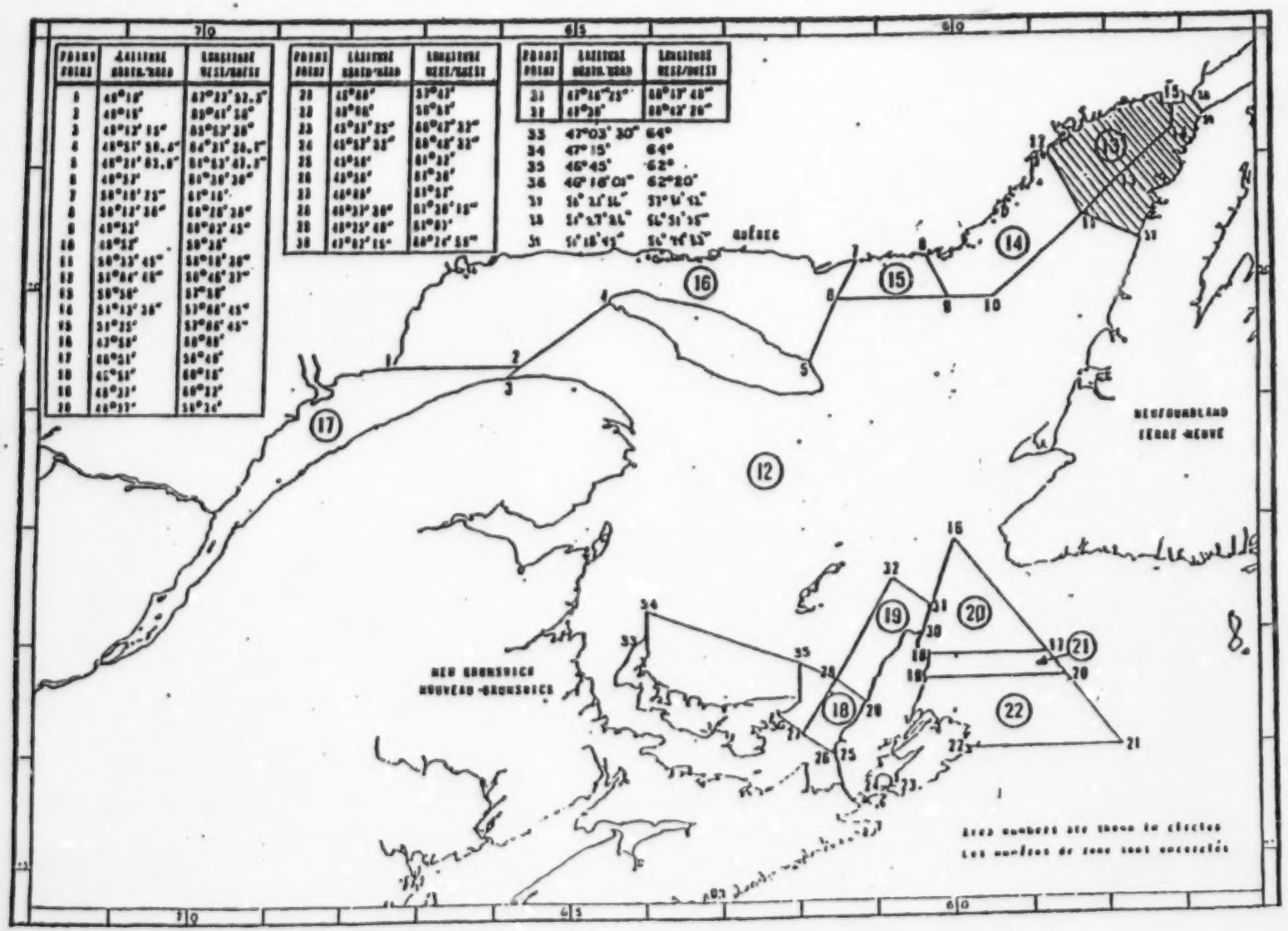
Fixed operating costs (excluding interest) include insurance premiums, the cost of renting equipment associated with the vessel or gear, vessel storage costs (including hauling and launching expenses), wharfage fees, fees for boat registration, fishing licences and radio operating licences, administrative expenses and any other fixed annual costs, including those related to other assets (vehicles, facilities and equipment).

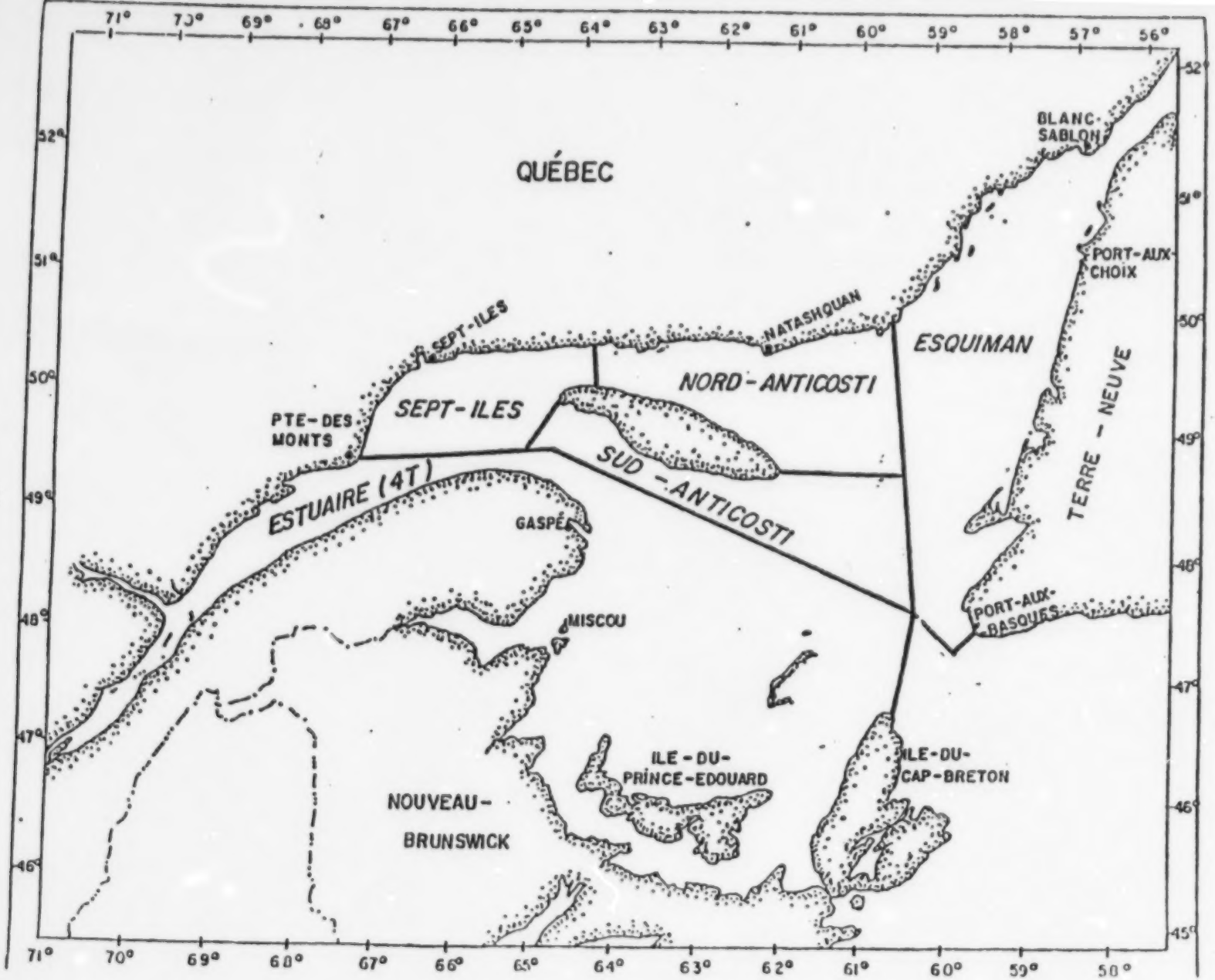
Labour costs correspond to the wages paid to crew members (excluding the skipper) after their share of operating expenses is deducted.

Financial expenses include loan interest and principal payments.

The cash flow surplus is the amount available to the owner, after all expenses have been paid, to pay himself a salary (where he is himself the skipper of his vessel) and cover the risk taken in investing in the fishery sector. It should be noted that this surplus may be overestimated since gear purchases and some maintenance expenses may have been financed through loans or funds from previous years and thus not require cash outlays from the current fiscal year.

Map of Gulf of St. Lawrence crab fishing management areas




QUÉBEC
BLANC-SABLON
PORT-AUX-CHOIX
NATASHQUAN
SEPT-ILES
ESQUIMAN
NORD-ANTICOSTI
SEPT-ILES
PTE-DES-MONTS
TERRE-NEUVE
SUD-ANTICOSTI
ESTUAIRE (4T)
GASPÉ
MISCOU
PORT-AUX-BASQUES
ILE-DU-PRINCE-EDOUARD
ILE-DU-CAP-BRETON
NOUVEAU-BRUNSWICK
71°
70°
69°
68°
67°
66°
65°
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D I V I S I O N D E S S E R V I C E S E C O N O M I Q U E S

E C O N O M I C S E R V I C E S D I V I S I O N

Ministère des Pêches et des Océans - Région du Québec
Department of Fisheries and Oceans - Quebec Region

(SEPTEMBRE 1991)

Liste des rapports d'étude		List of studies	
1982		1982	
82-1	Répertoire des programmes d'aide gouvernementale à l'industrie des pêches au Québec; 101 pages (non disponible).	82-1	-
1983		1983	
83-1	Processus d'évaluation et de prise de décision pour l'attribution des permis de pêche pour les bateaux de 45 pieds et plus; Document de travail; 13 pages; (non disponible).	83-1	-
83-2	Répertoire des programmes d'aide gouvernementale à l'industrie des pêches au Québec; 183 pages (non disponible).	83-2	-
1984		1984	
84-1	Répertoire des programmes d'aide gouvernementale destinés à l'industrie des pêches maritimes du Québec; ISBN-0-662-92919-5; 67 pages (non disponible).	84-1	Guide to Government Assistance Programs for the Quebec Marine Fishing Industry; ISBN-0-662-92919-5; 60 pages (not available).
84-2	Simulation comptable du pêcheur côtier; 15 pages (non disponible).	84-2-3	Fisherman's Accounting Exercise; 15 pages; (not available).
84-3	Simulation comptable du pêcheur hauturier; 15 pages (non disponible).		
84-4	Le registre comptable du pêcheur; 50 pages.	84-4	Fisherman's Accounting Register; 50 pages; (not available).

1985

85-1 L'industrie des pêches maritimes du Québec: Description statistique; ISBN 0-662-93183-1; 184 pages.

85-2 Répertoire des programmes d'aide gouvernementale destinés à l'industrie des pêches maritimes du Québec; ISBN-0-662-93438-5; 77 pages.

85-3 Étude de rentabilité de la flotte de pêche au crabe du Québec: 1984; 47 pages (non disponible).

85-4 Étude de rentabilité du secteur de la transformation du crabe des neiges au Québec: 1984; 38 pages.

85-5 Coûts et revenus des bateaux de pêche sélectionnés du Québec: 1984; 113 pages.

85-6 Étude de rentabilité: crabiers côtiers-Estuaire du Saint-Laurent et Moyenne Côte-Nord: 1984; 68 pages (non disponible).

85-7 Description de la flotte de pêche du Québec: 1984; 51 pages.

85-8 Impact de l'addition de nouveaux permis semi-hauturiers dans la pêche au crabe du sud-ouest du Golfe; Document de travail; 25 pages (non disponible).

1985

85-1 The Maritime Fisheries Industry of Quebec: Statistical Description; ISBN-0-662-93183-1; 184 pages (not available).

85-2 Guide to Government Assistance Programs for the Quebec Marine Fisheries Industry; ISBN-0-662-93438-5; 70 pages; (not available).

85-3 Study on the Viability of the Quebec Crab Fleet: 1984; 47 pages (not available).

85-4 Economic Performance for the Crab Processing in Quebec: 1984; 35 pages (not available).

85-5 Cost and Earnings for Selected Fishing Boats in Quebec: 1984; 113 pages.

85-6 -

85-7 -

85-8 -

1986

Étude de rentabilité des composantes de l'industrie des pêches maritimes québécoises liées aux chalutiers de moins de 100 pieds: 1985

86-1 Volume 1 Les crevettiers; ISBN-0-662-93853-4; 71 pages.

86-2 Volume 2 Les chalutiers exploitant les poissons de fond; ISBN-0-662-93857-7; 83 pages.

86-3 Volume 4 Les usines de transformation des poissons de fond; ISBN-0-667-94087-3; 81 pages.

1986

Profitability Study on Various Components of Quebec Maritime Fishing Industry which are Associated with Trawlers under 100 feet in length: 1985

86-1 Volume 1 Shrimp Trawlers; ISBN-0-662-24157-2; 71 pages.

86-2 Volume 2 Groundfish Trawlers; ISBN-0-662-93857-7; 83 pages.

86-3 Volume 4 Groundfish Plants; ISBN-0-667-94087-3; 81 pages.

	Les usines de transformation de produits marins au Québec	Quebec Marine Processing Plants
86-4	Volume 1 Répertoire des producteurs; ISBN-0-662-93914-X; 95 pages.	Volume 1 Directory of Producers; ISBN-0-662-93914-x; 95 pages.
86-5	Volume 2 Évaluation des capacités de transformation; ISBN-0-662-93915-8; 28 pages.	Volume 2 Assesstment of Processing Capacity; ISBN-0-662-93915-8; 28 pages.
86-6	Évaluation économique de la technique de barratage sous vide des poissons de fond; 21 pages (non disponible.	-
86-7	Analyse de la diminution du stock de morue 4RS-3Pn sur les secteurs primaire et secondaire; Document de travail (non disponible); 38 pages.	-
86-8	Description de la flotte de pêche du Québec; 1985; 69 pages; (non disponible).	-
86-9	Coûts et revenus des bateaux de pêche du Québec; 1985; ISBN-0-662-94000-1; 140 pages.	Costs and Earnings of Quebec Fishing Vessels: 1985; ISBN-0-662-15063-5; 140 pages.
86-10	-	Estimation of the Financial Structure of Fishing Enterprise Between Cost and Earnings Survey Years; 37 pages; (not available).
1987		1987
87-1	Données techniques et financières sur les crabiers de la Basse Côte-Nord du Québec: 1985; ISBN-0-662-94152-7; 33 pages (non disponible).	Technical and Financial Data on Quebec Lower North Shore Crabbers: 1985; ISBN-0-662-15543-2; 32 pages (not available).
87-2	Données techniques et financières sur les cordiers du Québec: 1985; ISBN-0-662-94151-9; 34 pages (non disponible).	Technical and Financial Data on Quebec Longliners: 1985; ISBN-0-662-15542-4; 39 pages (not available).
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